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Telephony

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Guaranteed Circulation This Issue
11,990, of Which 11,440 is Paid

"HOTEL PACKAGE" SERVICE

Sheraton Plaza Hotel of Boston first to have new "Hotel Package" telephone service, designed following studies by representatives of Sheraton chain and Bell System companies. **See page 20.**

MANAGEMENT • PLANT • TRAFFIC • COMMERCIAL • LEGAL • ACCOUNTING

ACME VISIBLE

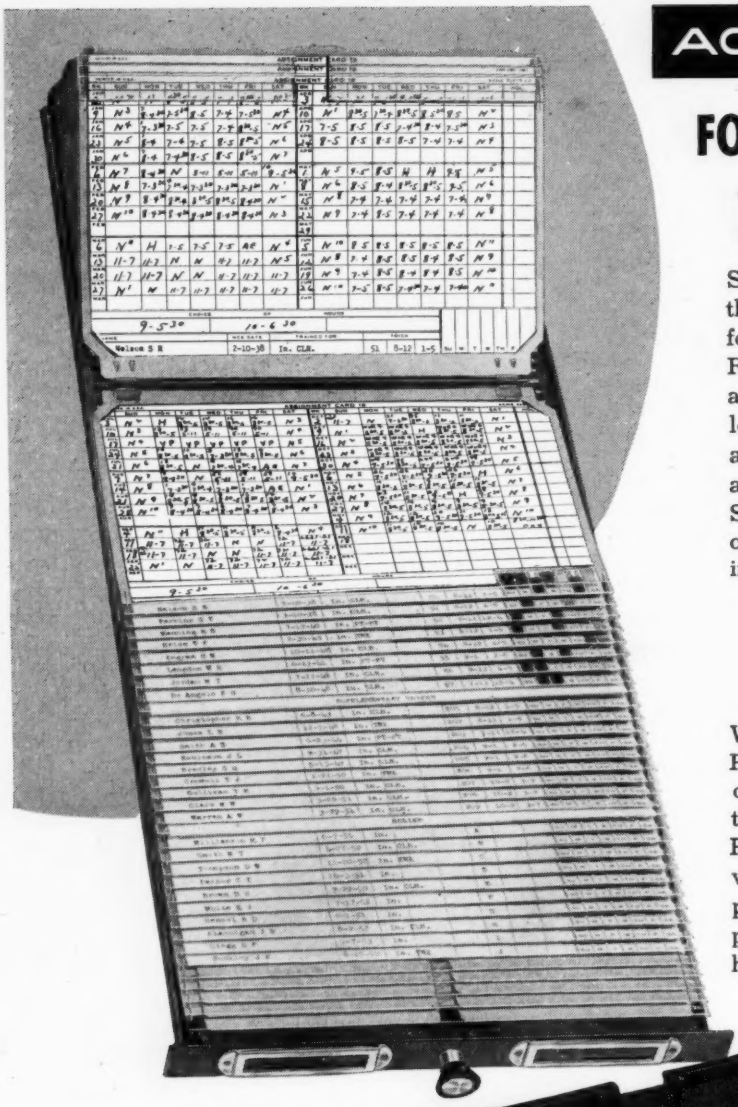
FORCE ADJUSTMENT RECORD

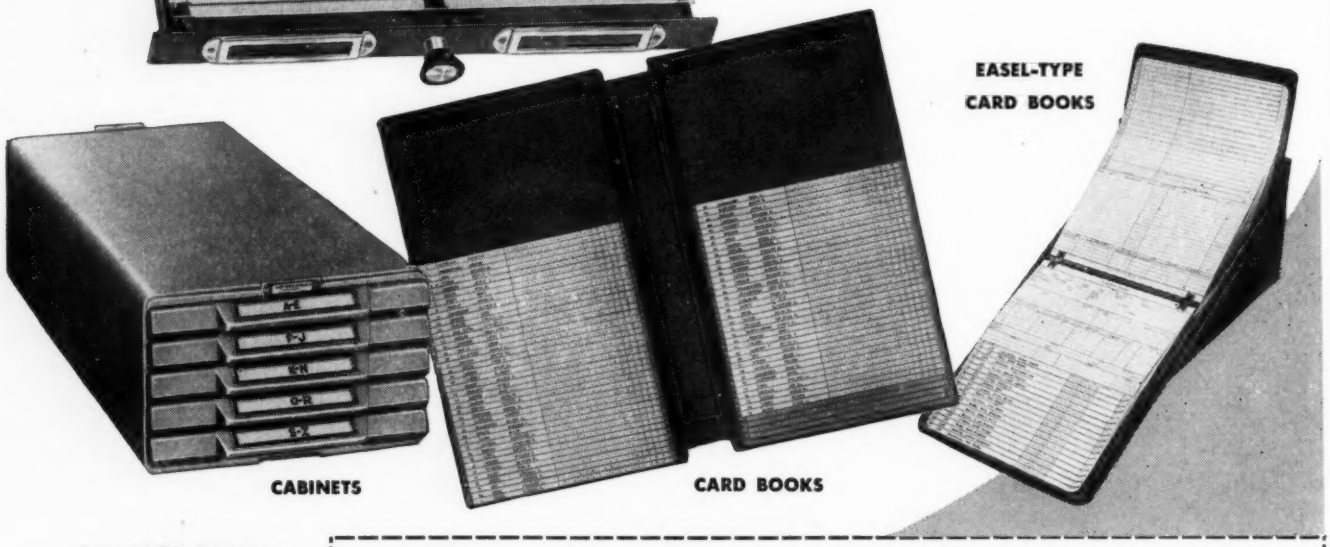
Visible Card Method for Assignment of Operators' Tours of Duty and Days Off

Standard for the telephone industry and used more than any other method or combination of methods for assigning operators' tours of duty and days off. Record shows the assignments for which an operator is trained, personal preferences, seniority and local working agreements. Holiday and night tours are fairly assigned and, when possible, in accordance with individual wishes. Standardization of the System facilitates transfer from one district to another with up-to-date assignment history, fitting into the system of the operator's new district.

CARD BOOKS, EASEL-TYPE CARD BOOKS, AND CABINETS ARE STANDARD FOR THE RECORD . . . SELECTION DEPENDING UPON SIZE OF FORCE, OFFICE PROCEDURE, ETC.

With standard Kraft Acme Permanently Hinged Pocket, the previous six month's assignments of an operator are placed in the back of the pocket facing the current assignment card. All Acetate Hinged Pockets also available; they permit a full year's weekly assignments to be placed on one card, the previous six month's history being visible when the pocket is turned. Forms and Lock-in Chain Signals have been specifically developed for this system.





EASEL-TYPE CARD BOOKS

CABINETS

CARD BOOKS

Acme Visible Equipment has been designed for telephone use by Acme Systems Engineers in close cooperation with practical, experienced telephone experts. Tell us your requirements and receive our suggestions and quotations.

ACME VISIBLE RECORDS, INC. Telephone System Division, Crozet, Virginia

15-11-57

Please send us illustrated booklet

☐ #1088 on Acme Switchboard Keyshelf Units ☐ #975 on Acme Flexoline

☐ Have representative call. Date_____ Time_____

☐ We are interested in Acme Visible equipment for_____ records.
KIND OF RECORD

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No unused equipment here! With a Stromberg-Carlson No. 3 Toll Board, you buy the number of positions you need now—whether your toll center is large or small—and add more as your business grows.

Pay only for what you use

Here is a toll board that *grows as your own business grows.*

When you buy a Stromberg-Carlson No. 3 Toll Board, you buy exactly what you need *today.* Then you add positions—one at a time —*as you need them.* You continue to give your subscribers the finest toll service without tying up money in unused equipment.

And that's not the only important advantage you enjoy with this board. Here are a few more:

★ Supervisory and signaling functions are in the line or trunk circuits, instead of in the cord circuit. This arrangement is particularly economical when you have a large number of cords in relation to trunks.

★ For simplified maintenance, no auxiliary contacts are used on jacks.

★ You can remove jack sleeves from the front without disturbing switchboard operation.

★ All equipment for cord circuits, position circuit, and operator circuit is mounted in the switchboard and has been wired and thoroughly tested at the factory.

★ The board can be supplied with keysenders for use with dial equipment. Keysenders provide greater operating efficiency by greatly increasing the sending rate.

To get the complete story on the profit-boosting features of the No. 3 Toll Board, call or write the Stromberg-Carlson representative in your area.

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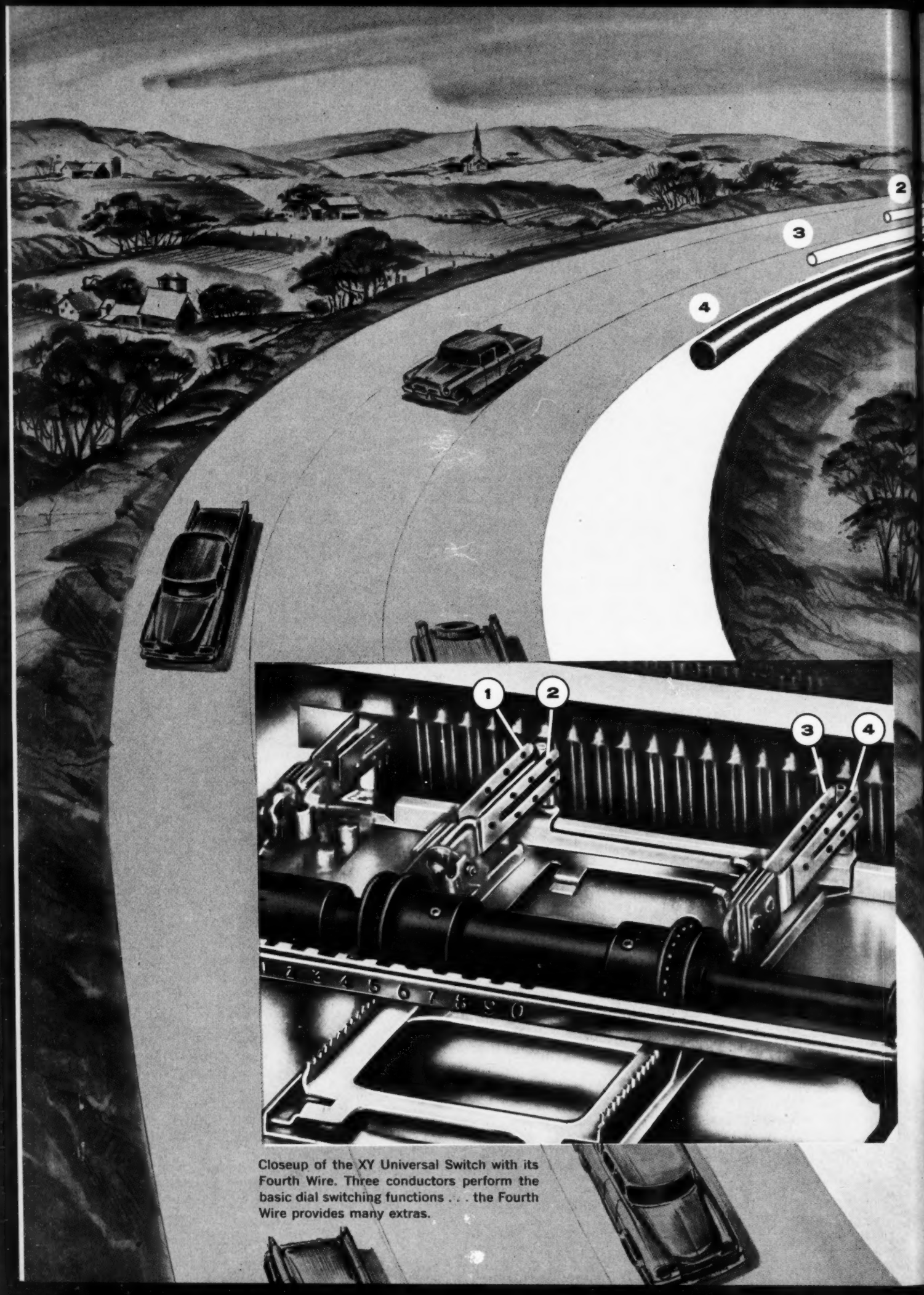
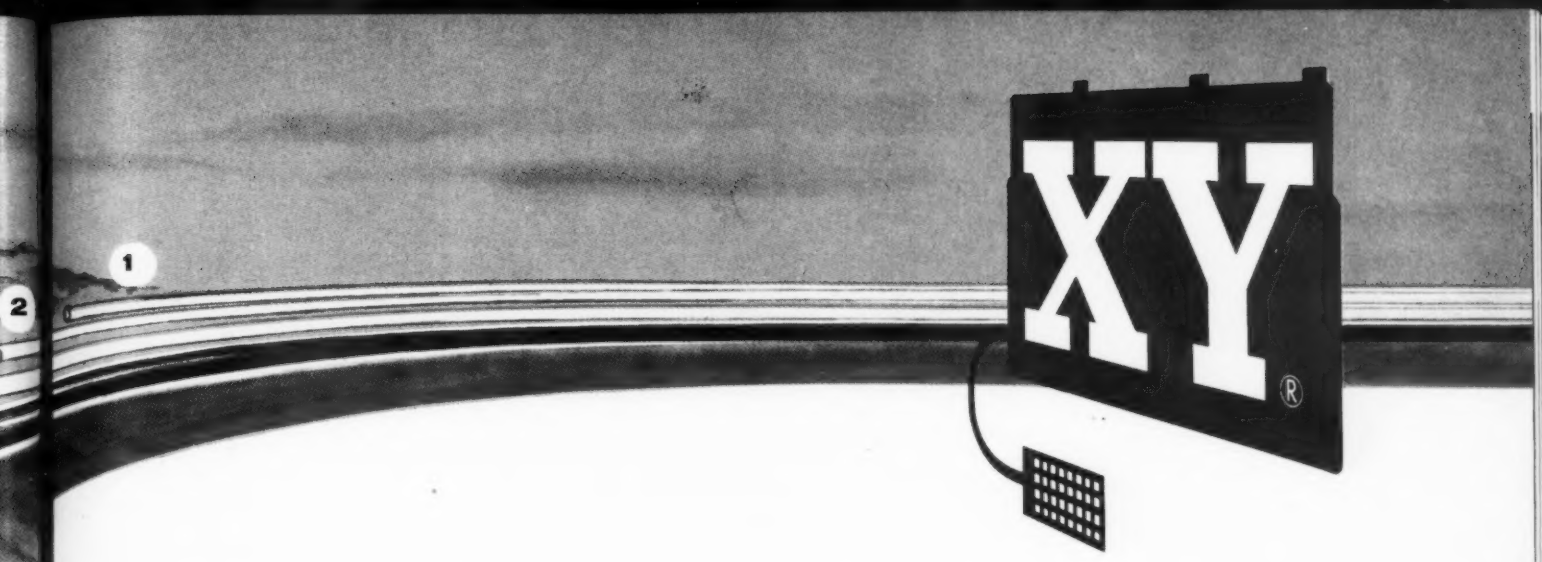


Closeup of the XY Universal Switch with its Fourth Wire. Three conductors perform the basic dial switching functions . . . the Fourth Wire provides many extras.



THIS "information highway"

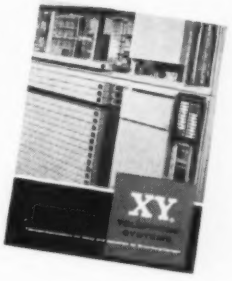
DOES 5 EXTRA JOBS FOR YOU...AT NO EXTRA COST

With XY® equipment your basic dial switching functions are performed by 3 conductors, so that Stromberg-Carlson's exclusive "Fourth Wire" is available to do 5 extra jobs.

This wire—operating as a "highway" to carry information to establish special controls—is an *integral* part of the system. You need buy no extra equipment to get these extra advantages which the Fourth Wire provides:

1. Elimination of complex special service controls.
2. On terminal per station exchanges, 100% fill on all lines, eliminates expensive directory changes. Subscribers keep their numbers no matter where they move.
3. Use of same equipment for both local and toll calls gives maximum availability with a minimum of equipment, regardless of kind of traffic.
4. Permits class of service identification, restrictive service, message rate metering and pay station service on a per line basis.
5. Allows for special applications of direct distance dialing.

The Fourth Wire is only one of many advantages you enjoy with an XY Dial System. Some others are maintenance-free vertical wire banks, *welded* twin contacts, the XY Universal Switch which serves as finder, selector or connector, twin-contact wipers that never need changing, and "double-sided" placement of switches and circuit plates for space economy.



You'll find the whole XY story in Booklet T-2003. Phone or write for a free copy now.

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I want the new
designs and colors like
those I've seen in the
popular magazines

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We have exactly what you want . . . the KELLOGG K500 telephone in both desk and wall models

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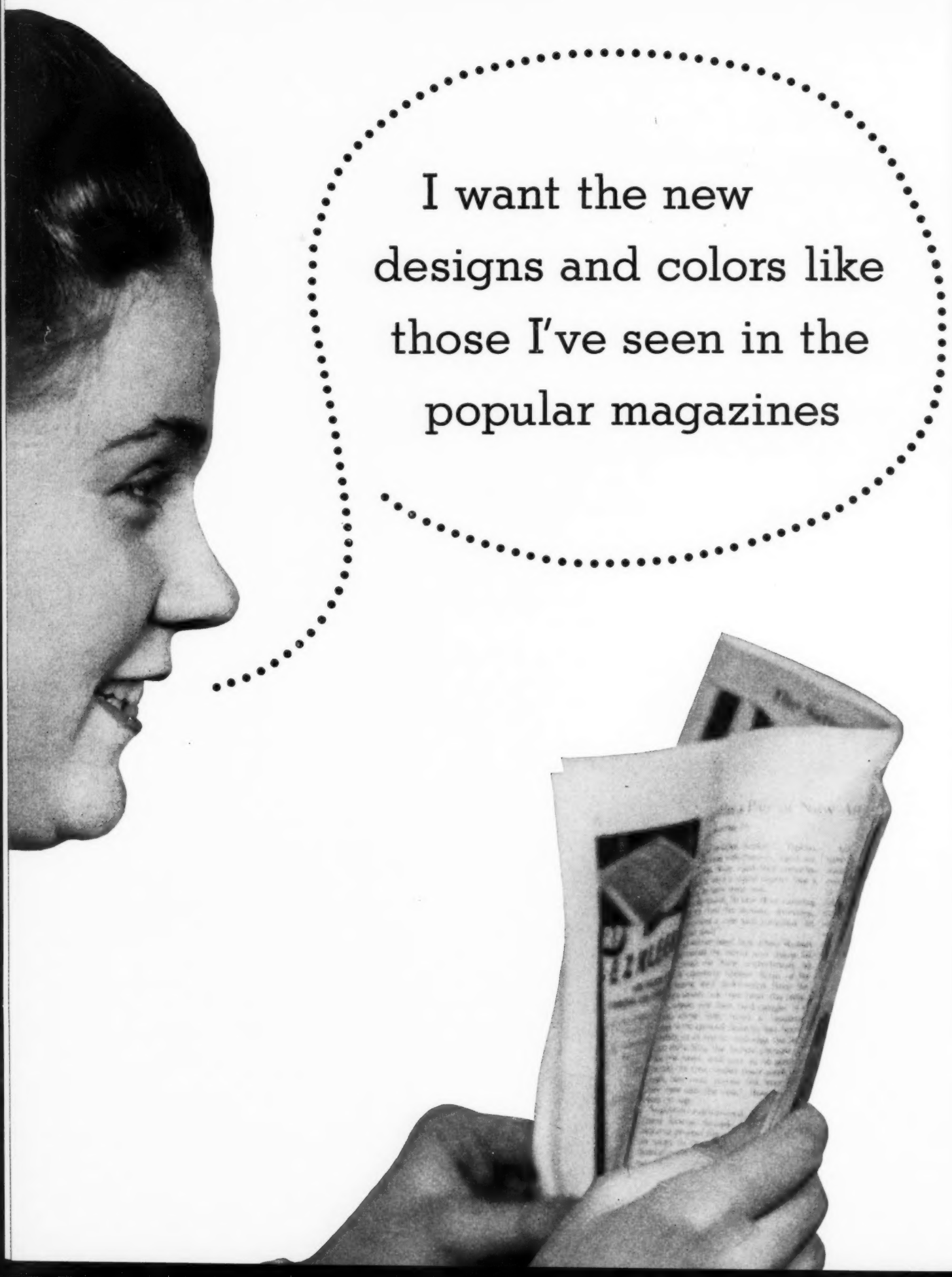
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designs and colors like
those I've seen in the
popular magazines

We have exactly what you want . . . the KELLOGG K500 telephone in both desk and wall models

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FLASHES AND PLUGS

FINDERS KEEPERS. In Jackson, Miss., they're telling a "tall one" on Keith Lumpkin, local manager of Southern Bell Telephone & Telegraph Co., reports Frank M. Grace, of the Customer Relations Office.

It seems a new employe was put to work collecting the coins from paystations, but after the first day he failed to appear at the office at all for two weeks. Then he nonchalantly walked in one day and announced that he had lost his key to the coin boxes.

"Where have you been?" stormed the manager. "We've been looking all over for you, if for nothing more than to give you your pay."

"Pay?" said the absentee one. "You mean I get a salary, too?"

•

COFFEE BREAK. A 51-year-old St. Paul woman wasn't even asked whether she wanted one or two lumps when she was biffed on the head recently by an irate neighbor who accused her of using the telephone too long.

The neighbor rushed in and let her have it on the head with a coffee pot when she refused to get off their party line.

•

COMPANY MANNERS. *Saturday Evening Post* recently (March 16) ran an article by Craig Thompson entitled "How's Your Telephone Etiquette"? A letter to the editor, commenting upon it, recalls the wife of a neighboring farmer in the days of the wall-type magneto telephone who, when the telephone bell rang, used to take a quick look in the mirror, pat her hair, remove her apron . . . and answer it.

•

DULL DODGER. A woman in Effiingham, Ill., says her cocker spaniel, "Dodger," has learned to answer the telephone when it rings and bark into the receiver, but there's a hitch, reports the United Press.

Dodger doesn't know how to hang up.

•

IN THE TEETH OF THE LAW. A thief who specializes in stealing pay telephones apparently gets a kick out of working in the unlikeliest of places—the Cook County criminal court building in Chicago.

Seven telephones have disappeared in the last two months from hallways normally crowded with police and law enforcement officials. Two telephones were ripped from the wall on April 12, county officials reported.

CHANGE OF ADDRESS

Please notify your local postmaster and Circulation Dept. of TELEPHONY of change of address. Change cannot be made without the old as well as the new address. Allow three weeks for change of address to become effective.

Telephony

THE JOURNAL OF THE TELEPHONE INDUSTRY
Since 1901

May 11, 1957

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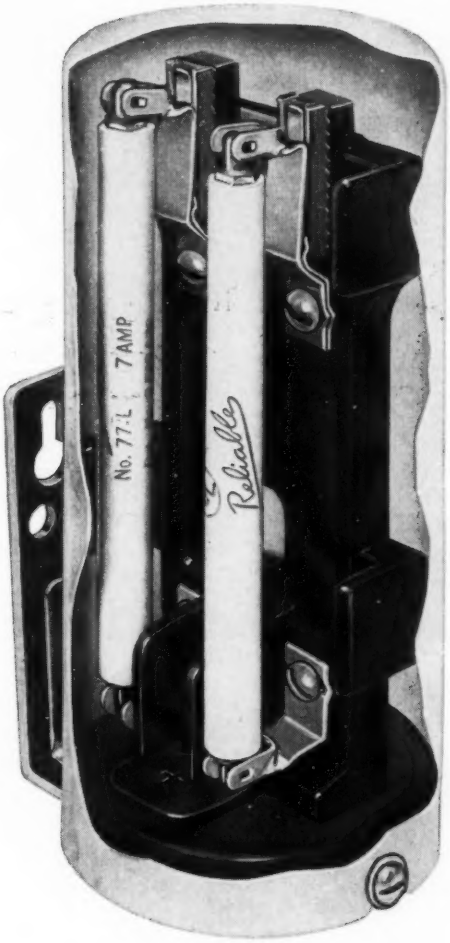


The flexible neoprene base has integral wire entrance sealing slots and, with its tapered design, closes the cover so snugly that it is truly weather-tight and insect tight.

Station Protection–A New Design

Only the fuses and the discharge blocks remain unchanged–performance and dependability continues as before. There is a phenolic fuse mount, rather than porcelain–a flexible neoprene base with integral wire entrance sealing slots instead of open wire holes–a fuse mount and terminal post redesign that puts the wiring snugly in place without removing fuses–a fuse mount that can be easily reversed to wire from right or left. All metal parts are either bronze, aluminum or stainless steel.

Reliable's new Series 2000 Station Protector replaces the Series 1000 with design changes only–changes that are good for the Telephone Plant.

60 YEARS OF INDEPENDENT TELEPHONY 1897-1957

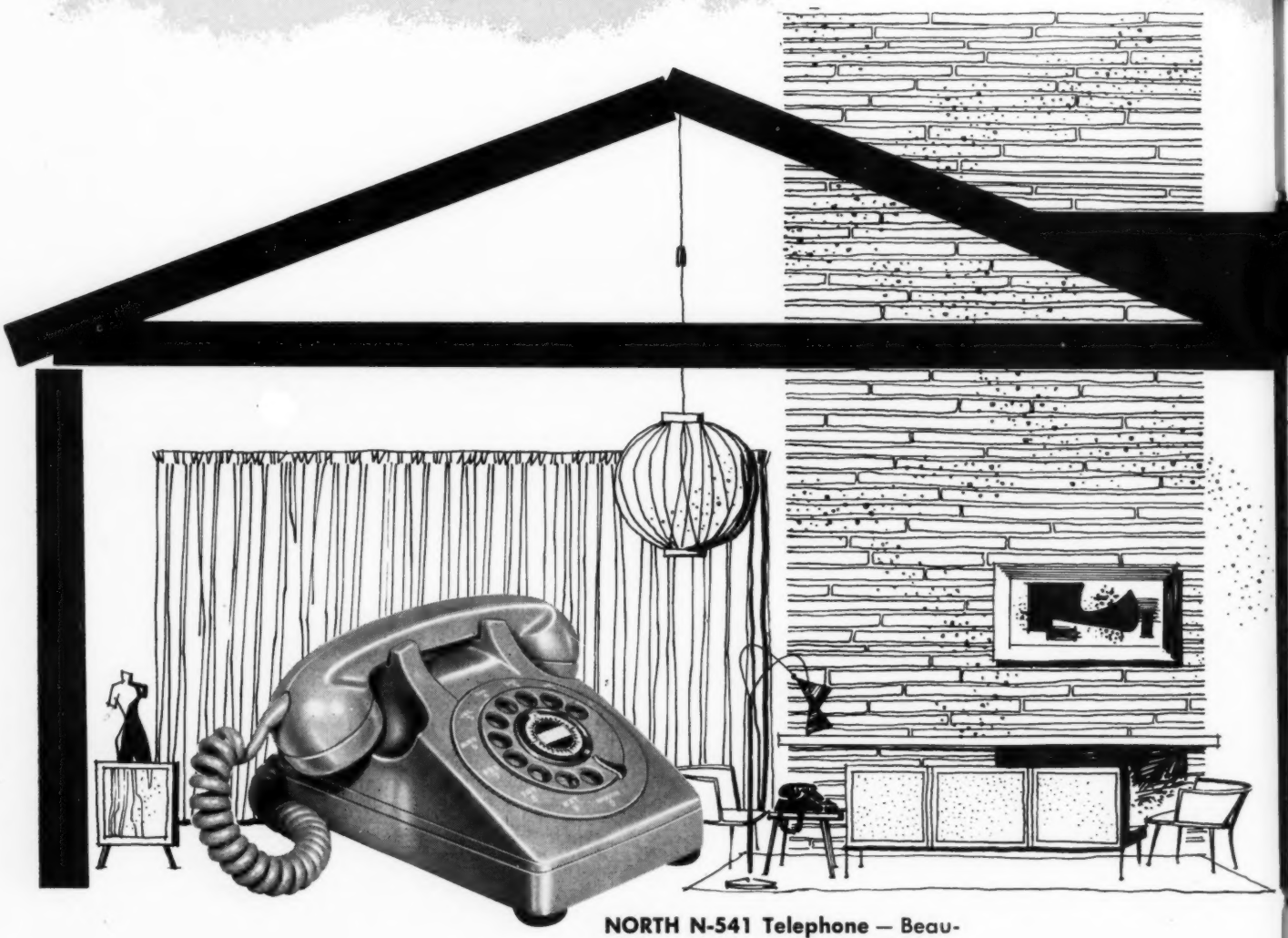
Reliable

RELIABLE ELECTRIC COMPANY CHICAGO

ONLY NORTH GIVES Y

THE COLOR-TONE N-541, THE C

FOR A "PHONE-A-ROOM" E



NORTH N-541 Telephone — Beautiful in Color-Tones — enhances the decor of any room, and decorating scheme! The clean simplicity of line makes it a handsome instrument for any room.

XUM

YOU THE ERICOFON,

COLOR-TONE WALL PHONE

EXTENSION PROMOTION!!!

The Independent Telephone Company can be successful in creating revenue-increasing extension business **only to the extent that it has something to offer!!**

AND — when you offer your subscribers North Telephones — you are offering phones that are ideal for every room!!

The classic N-541 Color-Tone for living rooms!!
The Color-Tone Wall Phone for kitchens, dens, workrooms!!
AND, the Ericofon, for bedrooms, exclusively convenient for dialing (the dial comes to you in the one-piece Ericofon); exclusively modern in free-form design; and exclusively NORTH!!

NORTH ELECTRIC COMPANY

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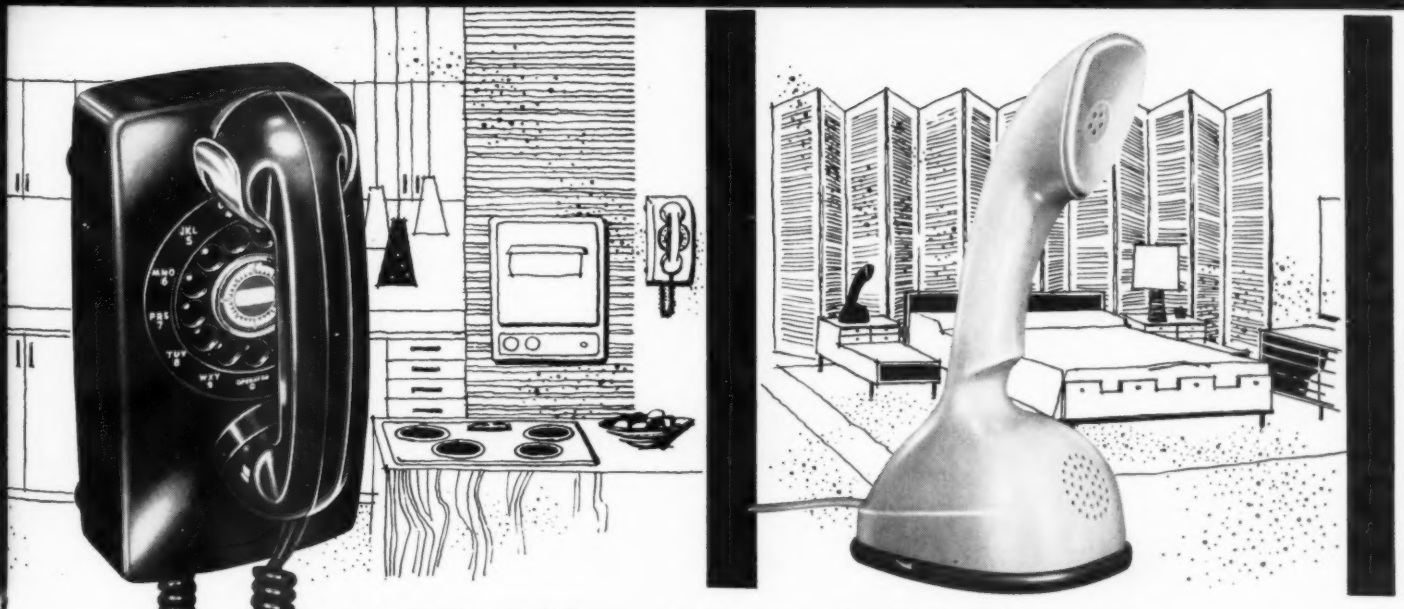


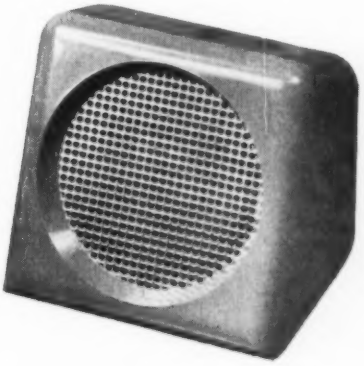
The NORTH Wall-Phone — Ideal for kitchen, den or workshop, the NORTH Wall Phone can be located out of reach of children, frees busy work space yet provides the convenience of a phone at hand! Choose from seven colors to brighten any area.

The NORTH Ericofon — Light — weighs no more than the handset on most standard phones!
Modern — one-piece free-form design in six colors!
Convenient — the dial comes to you for dialing ease in any position, any angle.

FILE
the "I gotta go look" type
the "Let's get a conference" type
All kinds of folks need
the "My arm is asleep" type
the "I need both hands" type

loud-speaking telephones!

Automatic's Loud-Speaking Telephone can be put at a centralized point in a conference group and still not cause feedback, because the microphone is in the base of the telephone. The Type 88 doesn't waste working space either—it's the same size as a regular telephone, and the control unit is separate, for mounting under the desk.



It's surprising how *really* convenient telephoning can be with Automatic's Type 88 Loud-Speaking Telephone. And it's wonderful, too, how many people will say: *"I want one"!* With it, a man can talk and keep both hands free; he can move about and do other work while talking. His voice is picked up from several feet away, by a microphone in the base of the telephone—and he hears the other party over a speaker.

The Type 88 works simply. To answer, you merely press a button; when finished, you need only press another. It has proven invaluable as a conference telephone because many persons can enter into the same conversation.

Subscribers are naturally happier, more productive, with Automatic's Loud-Speaking Telephone. And telephone companies are gaining substantial added revenue. If you'd like to learn more about this profit-making telephone, write for Circular 1857. Address: *Automatic Electric Sales Corporation, 1033 W. Van Buren St., Chicago 7. Or call HAymarket 1-4300.*

AUTOMATIC ELECTRIC

A MEMBER OF THE GENERAL TELEPHONE SYSTEM

ONE OF AMERICA'S GREAT COMMUNICATIONS SYSTEMS

Telephone Traffic Keeps Moving at

With LEICH'S

40A PABX

Tell your customers about Leich's 40A PABX. Write for our catalog today!

LEICH

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nt Parsons College

(Right) The Parsons College switchboard is equipped with 40 lines, 4 local links, 4 city trunks, and conference service. The capacity of the 40A is 40 lines, 6 local links, and 10 city trunks. Conference service is an optional feature.

Parsons College at Fairfield, Iowa, is a liberal arts school with 26 buildings scattered over its 55 acre campus. Telephone service between many of the buildings and to the main exchange is provided by a Leich 40A PABX switchboard. Here's how this Leich PABX keeps telephone traffic moving without a hitch.

Leich's exclusive keyset turret extends incoming city trunk calls quickly. When the attendant at Parsons receives such a call, she reaches the inside telephone by merely pressing two keyset buttons in sequence.

This simple operation connects the incoming call to a party in any of the school's several buildings which have PABX extensions. Callers are seldom, if ever, kept waiting by a busy attendant.

The folks at Parsons make their inside calls, consultation calls, and outgoing city trunk calls easily, too. They make these calls themselves—without assistance from the turret attendant.

The backbone of the 40A PABX is our Leich all-relay dial switchboard. It's modeled after the famous Leich Dial System. It offers dependable switching in a compact cabinet which will fit in any modern office or plant.

Pictured above, extreme right, is the Parsons College switchboard. Mr. Art Baker (right), District Manager in Fairfield of the United Telephone Co. of Iowa, recommended the Leich 40A PABX to the school. With him is Mr. Gene Savage, Equipment Superintendent of the United Telephone Co. of Iowa. He is shown examining the Leich equipment.

Features Your Customers Will Like

1. Uses Standard Leich telephones.
2. Any non-restricted inside station may call outside without waiting for the attendant.
3. Local links are not tied up on extension dialed calls to city trunks.
4. All the power equipment is contained in the switchboard cabinet.
5. Consultation calls without help from attendant.
6. Restriction of outside calls if desired.
7. Night answering by any telephone.
8. Inside telephones have two digit numbers.

LEICH SALES CORPORATION, 427 WEST RANDOLPH STREET, CHICAGO 6, ILLINOIS

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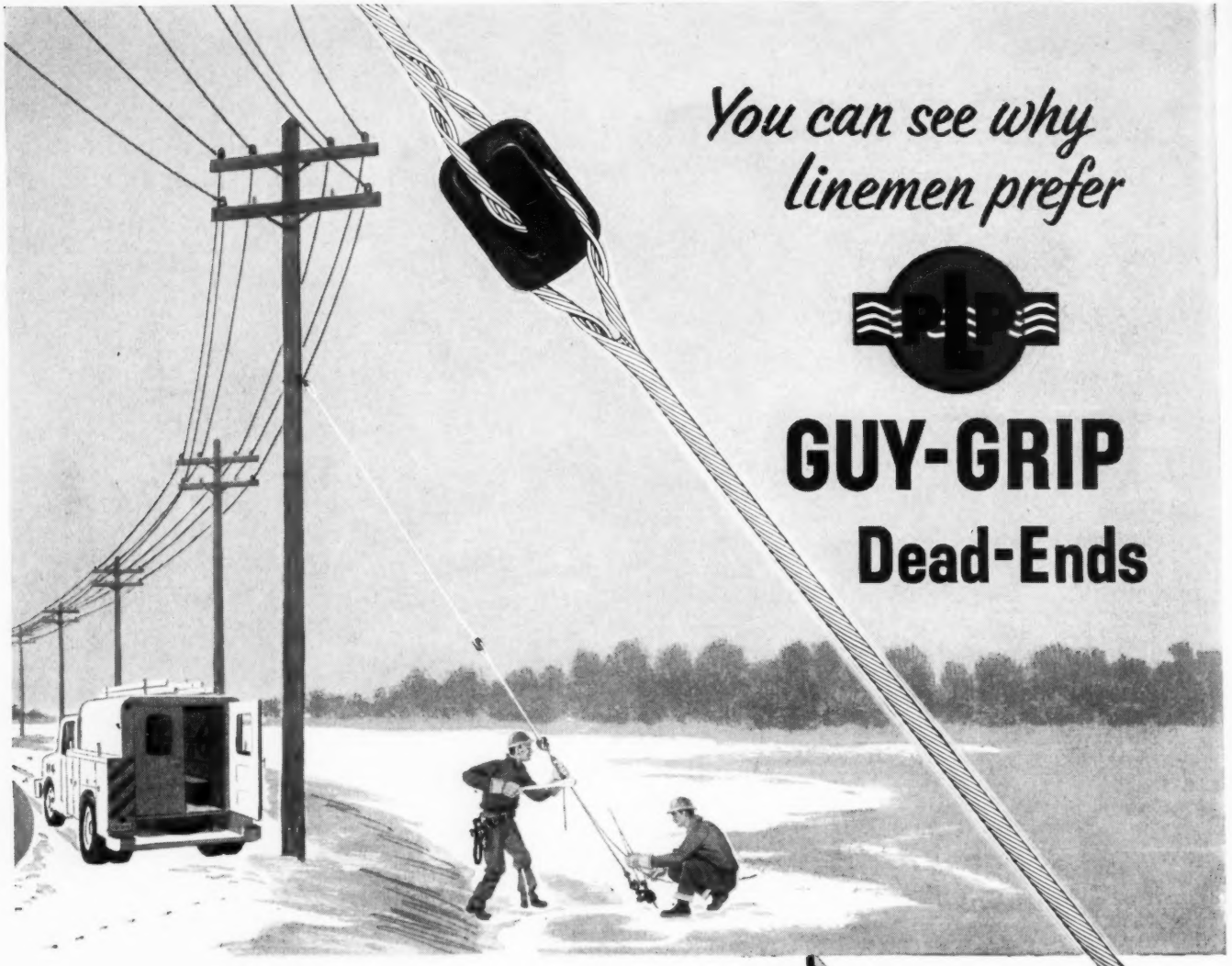
manufacturers of telephones, switchboards and related apparatus since 1907



You can see why linemen prefer

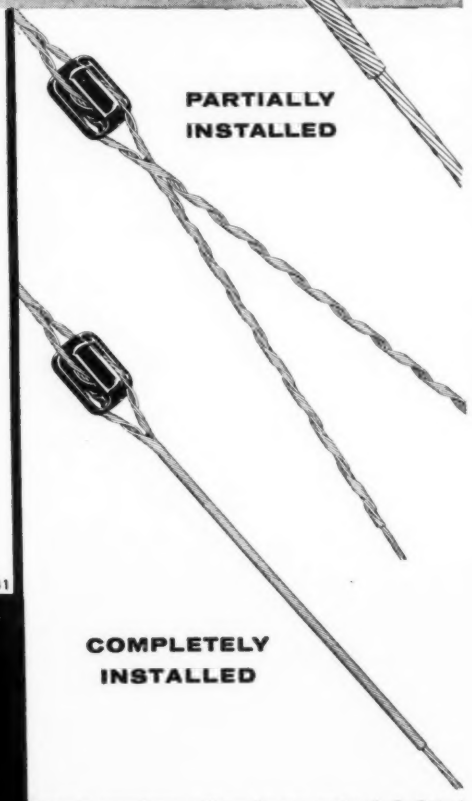
GUY-GRIP Dead-Ends

Linemen are enthusiastic!

PLP GUY-GRIP dead-ends are the easiest, fastest and safest method yet devised for dead-ending strand.

Installation is easy because it takes just one unit, no moveable parts, no bolts or clamps to tighten. It's fast. All you do is hand-wrap the dead-end legs around the strand.

And it's safe. You can see at a glance that the installation is completed and thus secure. Linemen make better time, take pride in their work.
Dept. No. TR2B



PX-81

PREFORMED LINE PRODUCTS CO.
[illegible] AVE. CLEVELAND 3, OHIO

Made in accordance with or for use under U. S. Patent No. 2,761,273; other patents issued and pending.

XUM

IN THE NATION'S CAPITAL

BY FRANCIS X. WELCH, WASHINGTON EDITOR

Justice Department enters FCC hearing on allocation of radio frequencies. . . . Takes position opposite that held by telephone industry. Justice Department also hostile to proposed Bell tariffs for rendition of leased-operated microwave service.

ON MAY 20, the Federal Communications Commission (FCC) is scheduled to get down to business on the very important hearings dealing with the allocation of radio frequencies in the higher band (890 megacycle). Both the United States Independent Telephone Association and the Bell System will be in on these proceedings—technically known as Docket 11866—in order to protect the interest of the telephone industry. But at the rate that other parties are showing up, it begins to look like one of those free-for-all situations, such as the comedian Jimmy Durante used to complain about "because everybody is trying to get into the act."

The latest party to show interest in joining these proceedings is a very important party, indeed—the Justice Department. On Mar. 28 Assistant Attorney General Victor R. Hansen wrote a letter to FCC Chairman McConnaughey in which he took quite an opposite position from that of the telephone industry with regard to the allocation of frequencies in these higher bands.

The telephone industry experts take the position that the FCC ought to prefer to turn over these frequencies to telephone and telegraph companies because they are common carriers, subject to continuous regulation by the FCC at the interstate level and by the state commissions at the intrastate levels. Furthermore, telephone experts will testify that the allocation of such frequencies to telephone companies would be the best way to insure maximum and efficient utilization of the frequencies in the public service as compared with allowing them to become diverted to special uses for private business profit which would be the case of other industries receiving such allocations.

In other words, the telephone industry's position is that maximum conservation of the radio spectrum—something which is the sworn duty of the FCC to protect under the policy laid down in the Communications Act of 1934—can best be accomplished through usage of radio frequencies by telephone companies and other regulated carriers as distinguished from other industrial users not so regulated—especially in those situations where the telephone companies are ready, willing, and able to handle the service for everybody.

But the assistant attorney general takes a different view entirely. He thinks that by giving telephone or telegraph carriers any preference in the opposition of such frequencies, competition would be lessened and monopoly encouraged in the manufacture, sale, and use of equipment adapted to this kind of service. Of course, it is the sworn duty of the Justice Department to carry out the policy of the anti-trust laws to prevent unfair competition. Hansen's letter to Chairman McConnaughey stated:

"We believe that section 314 of the Communications Act indicates a congressional intent to rely upon competition to regulate and develop the communications field to the greatest possible extent. Those provisions of the act regulating common carrier activities proceed upon the principle that direct regulation must be substituted for competition. This principle is inconsistent with the principle of competition, and is applicable in those areas where the common carriers already had monopolies when the Communications Act of 1934 was enacted. There is nothing in the communications act to indicate that any particular portion of the radio spectrum, such as the microwave region, should be turned over to the common carriers. We believe that reconciliation of the two methods of regulation requires that the common carrier concept be given as limited application as the terms of the communications act permit."

Lease-Maintenance Microwave

In still another matter before the FCC, Assistant Attorney General Hansen has indicated a position which can only be described as hostile to the telephone industry's position. This relates to the filing of proposed tariffs by the Bell System for the rendition of leased-operated microwave service to those industrial users of such communications which prefer to have the telephone company handle their business.

The FCC is considering whether to allow the proposed tariffs for leased-maintenance of microwave equipment to go into effect. The telephone companies say they need such approval (through the establishment of such tariffs) in order to conduct services of this nature as a supplementary part of regular service operations.

It will be recalled that when the Justice Department agreed last year to end its anti-trust suit against the Bell System and Western Electric, there was a prohibition in the consent decree against the Bell System and Western Electric doing any other kind of business together which was not regulated telephone business. Therefore, if the Bell System is going to do leased-maintenance business on microwave equip-

ment, it will have to qualify that kind of service as a regulated public service. And that is why the proposed tariffs were filed.

The assistant attorney general, who worked out this consent decree with the Bell System, is no longer on deck at the Justice Department. He was Stanley N. Barnes who has since graduated to the federal bench as a member of the Ninth U. S. Circuit Court of Appeals. His successor is Assistant Attorney General Hansen, who wrote the following letter, in part, in response to an invitation by the FCC for comment from interested parties on the AT&T's tariff filings:

"The AT&T judgment (consent decree in Western Electric case) generally sought to limit AT&T and its operating subsidiaries to 'common carrier communications services.' Accordingly, should the commission approve AT&T's proposed tariff, and should AT&T or its operating subsidiaries engage in the business of leasing and maintaining private communication systems to private users, this division would be forced to consider most seriously appropriate action under the AT&T judgment.

"Apart from the AT&T judgment, private communication is a young and growing field. It provides a vital service in our complex society. Therefore, there is a major public interest in assuring the adequacy and efficiency of this service. Vigorous and healthy competition is essential to a growing and expanding industry. Approval of the proposed 'tariff' by the commission might substantially lessen the competition which now exists in the leasing, as well as in the manufacture and sale, of equipment for use in private communication systems. Acceptance by the commission of the AT&T tariff might well extend the Bell System in this industry at the expense of its many private competitors. Accordingly, the commission's action on this pending tariff application is of vital interest to the Anti-trust Division."

The implication of Mr. Hansen's comment about the importance of maintaining "vigorous and healthy competition" is that this can best be accomplished by eliminating what is probably the most vigorous and healthy competition on the scene so far. This would certainly leave the field wide open to a lot of other competitors. But it would also seem to deny to Bell telephone companies any right of competition at all. If all anti-trust policy were to follow along those lines and the strongest competitor in any contest had to be knocked out of the competition in order to preserve it, we would be getting some strange results in our general economy.

It could be, of course, that Mr. Hansen's office is being used by some of the very competitors who have consistently fought the entrance of the telephone industry into the microwave communications business at every turn. Mr. Hansen admitted as much when he said, in his letter to FCC Chairman McConnaughey, that he had a complaint from a representative of unnamed persons interested in the right to use their own microwave facilities. But there is nothing particularly unknown about the fact that certain industrial groups or their counsel have appeared before state commissions to contest telephone industry activity in this field.

Has McConnaughey Had Enough?

If Mr. Hansen follows through his critical letters with an actual Justice Department intervention, the FCC will be put on another spot in trying to decide these two important cases. FCC Chairman McConnaughey has been put on so many spots, during the past year, there is a rumor that he has asked President Eisenhower not to name him to another term on the FCC, when his present term expires next month. That is probably not the reason McConnaughey would give, but he has more than had his share of being sniped at, since he came on the commission three years ago. The Washington grapevine has it that McConnaughey was offered another term if he wanted it, but that he would like to return to private law practice. His opposite number, chairman of the Federal Power Commission, Jerome K. Kuykendall, has already been renominated for another term on that regulatory board.

CWA Prexy Contest

Some sensitivity to occasional charges of self-perpetuation of labor union controls, has apparently made a modest appearance among the AFL-CIO Communications Workers of America. There will be a contestant for the CWA presidency for the first time since it was taken over by Joseph A. Beirne for 13 terms (since 1943). Beirne, it will be recalled, was president of the old Na-

REA Makes Two Rural Telephone Loans

About 1,174 families in rural areas of two states will get new or improved telephone service as a result of $500,000 in loans made recently by the Rural Electrification Administration. The U. S. Department of Agriculture announced on April 29 that the two REA loans were approved to borrowers in Georgia and Tennessee. About 300 of the families who will benefit from these loans have no telephone service at the present time. Details of the loans follow:

Dixie Telephone Co., Claxton, Ga.; $170,000, second loan (April 26).

The Dixie company plans to provide modern dial telephones for 286 rural subscribers. Of these, 167 now receive magneto and common battery service from the Alamo Telephone Co. The Dixie company plans to acquire these properties, convert them to automatic operation, and add new facilities to serve an additional 119 rural families now without telephones in the Alamo community.

A new automatic central office is scheduled at Alamo. Claxton will serve as headquarters of the system, which will include automatic exchanges at Alamo, Collins and Uvalda.

The two REA loans to the Dixie company totaling $414,000 will enable it to offer new and improved service to 770 rural subscribers.

H. C. Hearns Jr. is president and manager of the company.

•

Friendship (Tenn.) Telephone Co.; $330,000, second loan (April 26).

The borrower proposes to use this loan to improve service for 709 existing subscribers and serve 179 families without telephones in and around Alamo. The existing subscribers are now receiving common battery service from the Alamo Telephone Co. The borrower plans to acquire these facilities with loan funds and funds of its own.

A new automatic central office is planned at Alamo. The present Alamo central office building will be remodeled and used for a collection office and warehouse garage.

The two REA loans to this borrower, totaling $780,000, will enable it to offer new and improved service to 2,014 subscribers. The system will include exchanges at Alamo, Friendship and Maury City. The latter two are scheduled for cut-over in early summer.

H. E. Bivens is president and manager of the Friendship Telephone Co.

XUM

tional Federation of Telephone Workers, an independent union which was a predecessor of the CWA. The CWA was reorganized after the 1947 Bell System telephone strike. Beirne's opponent will be Aaron Thomas Jones, CWA vice president for eight years. He has said he would be a candidate for the CWA presidency in June 1957, at the union's meeting in Kansas City, Mo. Both Jones and Beirne live in the Washington, D. C., area.

Jones accused Beirne of "failure to build the kind of union the Communications Workers need." Jones delivered his announcement from Daytona Beach, Fla., after being endorsed 22 to 2 by delegates attending a conference of union chiefs representing locals working within the Bell System's Long Lines Department. Jones said this is the first time he has sought the union's top office. Membership is set by the union at 300,000.

A CWA union spokesman has said that Beirne may be expected to run again. Jones charged that Beirne, the present incumbent, sought to remove him from the vice presidency of the CWA and that Beirne planned to carry through with such action at the CWA meeting in June of this year. It is difficult for an outsider to estimate just how serious a threat the Jones candidacy will be for Mr. Beirne. But it looks like the Kansas City meeting of the CWA next month is not exactly shaping up as a cut-and-dried routine affair.

Relocation Bills Bumped

You can scratch two off of that list of new state laws which would permit public utilities to be reimbursed with federal funds for the expense of relocating their facilities because of federal-aid highway construction. The two laws were passed by the New York Legislature and the Colorado Legislature, respectively. They were bumped off by vetoes from Governor Harriman and Governor McNichols, respectively. Earlier vetoes occurred in Wyoming and Kansas.

That leaves, in addition to Massachusetts which passed its law last fall, eight new state laws, so far, on the books, with another passed but not signed, and 10 pending. The eight laws approved are in Georgia (for publicly-owned utilities only), Idaho, Montana, New Mexico, North Dakota, Oklahoma, Tennessee, and Utah. Minnesota passed a federal interstate highway expense law, which Governor Freeman may or may not veto. Still to be heard from are Delaware, Florida, Iowa, Maine, Missouri, Ohio, Pennsylvania, Rhode Island, Texas, and Vermont.

"I think I just talked Harold into putting an extension in the kitchen."

The Tell-tale Toll Ticket

A side-light on a minor scandal involving one of our federal regulatory commissions turned up a little telephone toll slip as a decisive link of evidence, last week. The case involved the Civil Aeronautics Board (CAB) which issues certificates, fixes rates, and otherwise regulates the interstate commercial airlines, just as the FCC regulates interstate telephone operations.

The Senate Special Investigations Sub-committee is investigating an alleged "leak" of confidential information about the action which the CAB was about to take last August on an application of Northeast Airlines to extend its operations to Florida. The CAB decided to give Northeast the green light. But before the CAB decision was announced, there was an unusual activity in Northeast Airlines stock.

A former executive director of CAB denied that he put in a call to a Boston broker, who bought 1,000 shares of Northeast. The broker later acknowledged that he got his "tip" over the telephone.

What pinned it down? A sub-committee investigator dug up the tell-tale toll ticket. It even registered the time that a nine-minute call had been placed. Result: Conflicting testimony, with committee hints of turning the record over to the Justice Department. In the furor, it was discovered that there is not even any law against CAB staff members talking shop out of the shop, although there probably should be. Justice may or may not pick up the trail, and Congress may or may not stiffen the CAB law. But it is a pretty sure thing that the tale of the tell-tale toll ticket will be remembered, when and if other temptations arise to peddle stock tips on the basis of inside regulatory information.

Tableside telephone service for Sheraton Plaza diners is part of the Hotel Package.

The Sheraton Hotel Story

Boston's Sheraton Plaza installs new complete telephone service — first of its kind in hotel history. Reprinted from TOPICS, magazine of New England Telephone & Telegraph Co.

IT'S NOT likely that the Sheraton Hotels will ever advertise the "hot and cold running chambermaids" of corny comedian fame. Such misinformation is pretty much confined to these tired routines. Sheraton people, however, are very much concerned about the latest in hotel services which they can offer their guests. That's why last May, this fast-growing hotel chain, one of the nation's top two, announced something new in its Boston hotel, the Sheraton Plaza.

These new services are cause for crowing for New England Telephone & Telegraph Co., too. The Sheraton Plaza was the first hotel in the United States to have in operation what has been called the "Hotel Package," a unique combination of the latest in telephone services. This Package is the direct result of a study completed by New England T&T's Bruce Harriman, superintendent—new and special services, and Communications Engineer Robert King, who undertook the study originally at Sheraton's request to help the chain improve its revenues from telephone service.

Not only did Messrs. Harriman and King show them how they could increase their telephone revenues, but their study proved to the management of the Sheraton Corp. that a number of new telephone features which could be installed would soon pay for themselves and even boost telephone revenues.

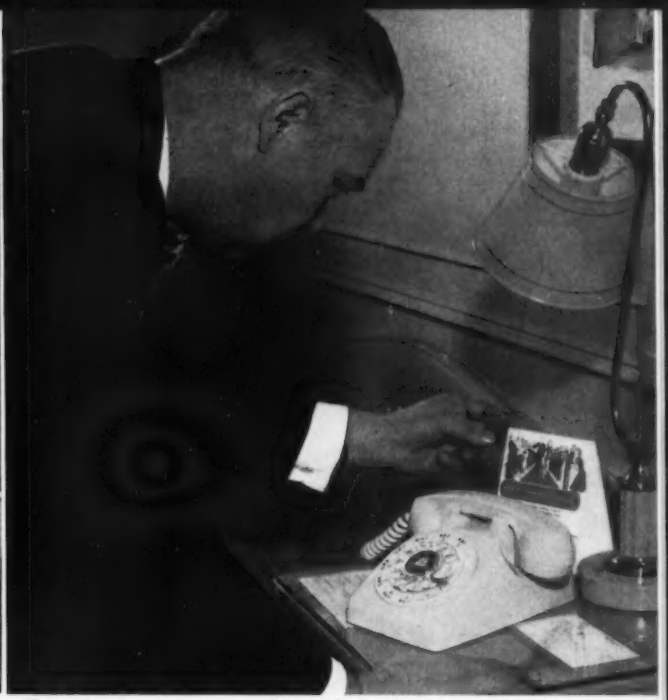
Translated into hotel telephone service what does this package mean to hotel guests? To find out, let's shadow a mythical guest we'll call John Armitage through part of his stay at the Sheraton Plaza.

John has checked in at the desk, been taken to his room and is getting settled. It's not his first stay with the Sheraton. He enjoyed his stay with them last year so much that when business brought him to Boston last May, he decided to register there again.

Mr. Armitage is unpacking his suiter, and as he walks to the closet with his suit, he notices a telephone on the writing desk. "Funny thing," he muses, "I don't recall seeing a *dial* telephone in a hotel room before—and a green one at that. Wonder what's happened?" Taking a closer look at the telephone, our hero finds he can dial all his local calls. For long distance, the notice says, he dials "O" and gets the hotel operator.

XUM

When a businessman enters his darkened hotel room if he's staying at the Sheraton Plaza he may find a lamp burning on his telephone —there's a message waiting for him at the desk.



Our businessman, perhaps he's John Armitage, has just spotted the tent card that suggests he call home—and the New England T&T hopes he does.

Just as Mr. Armitage is about to turn away to go back to his unpacking, a card near the telephone catches his eye. "Why not call home and let those at home know you arrived safely. To call . . ." and the gay little reminder quoted some prices to various cities in the United States. "Well, why not," says Mr. A. "Think I'll give Mary a call."

Later the same evening, a tired, slightly wrinkled John Armitage returns to his hotel room. He notices a light shining on his telephone. Recalling a notice which said that if there was a message for a guest, the lamp on his telephone would be lighted and he should dial the appropriate code to get his waiting message, Mr. Armitage picks up his telephone and a few seconds later has his message. (A business associate, Mr. Trainor, thinks he will be a half hour late for his appointment the next morning. He'll call him in the morning if his plans should change again.) After receiving the message, Mr. A. leaves word to be called at seven the next morning. He is told his morning call will be automatic—also through this new telephone system which the Sheraton Plaza has recently acquired.

"Time to turn in," says Mr. A. But, taking a good look at his rumpled suit, he decides to make one more call, this one to the valet service to have his suit pressed first thing in the morning. He wonders if there'll be anyone on duty this late at night, but decides to call anyway. He calls the number and hears: "Listen carefully! This is a recorded announcement from the valet service. There is no attendant on duty, but we will pick up all items of clothing for cleaning or pressing in the morning. Please give your name, room number, time you need your clothing and instructions as to whether they should be cleaned or pressed. Start talking at the first tone signal and you may continue until the second signal. Your order will receive our prompt attention. Thanks for calling." Mr. Armitage asks them to pick up his suit the next morning and return it pressed by that afternoon.

The time is now seven the next morning. Mr. A's telephone rings. Sleepily he reaches for it. A recorded

(Please turn to page 46)

One of the Plaza's Valet Service attendants takes down orders recorded on the Automatic Answering set in service there.

This group of public telephones prominently located outside the Cafe Plaza is heavily used.

XUM

High Speed Color Coding of PVC Insulated Wire

By W. L. HOFF*

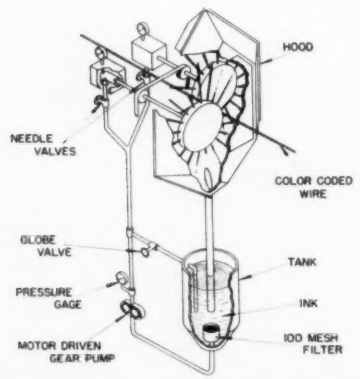
TEXTILE materials have been used for insulating wire for over three-quarters of a century in telephone and telegraph equipment. They have afforded excellent insulating qualities, long life, color distinction, abrasion resistance, heat resistance and relatively low fire hazards.

The modern trend in the Bell System and American industry is toward more compact instruments and control panels along with increased efficiency and reliability in their performance.

The Bell System has continually directed its attention toward the search for insulating materials for wire and cable that have thinner walls, higher dielectric strength and more fire and moisture resistance along with working and handling qualities comparable to those of textile-insulated materials.

This research work pointed toward the general use of thermoplastic insulation in switchboard wires and local cables.

One of the materials that offered good possibilities was polyvinyl chloride (PVC), the advantages of which are:



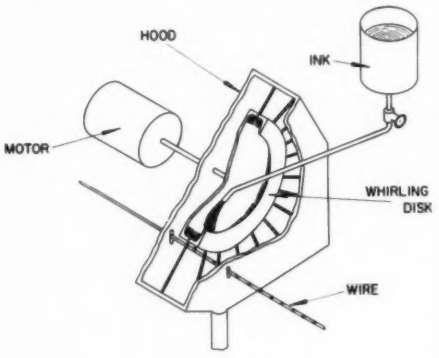
SCHEMATIC ARRANGEMENT OF PLUMBING AND ESSENTIAL DEVICES IN THE CODING MACHINE

Fig. 2

(1) The dielectric strength of PVC-coated conductors is appreciably higher than that of the textile-covered wire.

(2) There would be considerable cost savings and space savings in the manufacture of PVC-insulated conductors.

(3) PVC could more easily be stripped off of the ends of the conductors than textile insulation.



PRELIMINARY EXPERIMENTAL DEVICE

Fig. 1

(4) PVC does not ordinarily support combustion and tends to extinguish itself if the kindling flame is removed. This reduces the need for fire detection equipment, and is one of the factors which permitted the removal of the common covers on the telephone switching frame.

On the other hand, with more closely spaced terminals it was also realized that if hot soldering irons touched the PVC coating it could easily melt through and cause bare spots on the conductor, or if the iron is held on a terminal too long the heat would be conducted along the wire and melt the plastic sufficiently to cause insulation breakdowns when the wire rests against an adjacent terminal.

*Mr. Hoff is with Western Electric Co. and he gave this address at the 1956 Signal Corps Symposium on Wires and Cables.

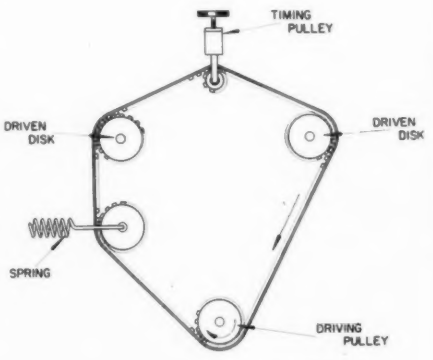
In view of the foregoing considerations, Bell Telephone Laboratories have been concerned with two major developments in the telephone industry, i.e., "solderless wrapped terminals" and "plastic-insulated wires."

The increasing success and use of "solderless wrapped terminals" advanced the use of plastic wire and this, in turn, made it necessary to develop a method of color coding plastic covered wire for its identification in cables having a large number of conductors.

The second development is the one to be discussed at this meeting. Early in 1953, the Bell laboratories proposed the use of "Dots" and "Dashes" to distinguish between conductors and suggested that the Western Electric Co. initiate a development program to provide a method of color coding PVC-insulated wire at high speed and during the extrusion operation.

They also specified that these colored dots and dashes extend around a considerable portion of the periphery of the wire so it could be identified when viewed from any angle.

In 1953, printing devices were avail-



TIMING DEVICE

Fig. 3

able for marking heavy-gage, thick-walled, plastic-covered conductors, but the top operating speeds of these machines were only 600 FPM.

Furthermore, it seemed desirable to use a coloring method which would not involve contact of the coding device with the hot plastic as the insulated wire emerged from the extruder, since such contact might leave depressions in the thin, hot insulation and cause electrical breakdowns. This practically excluded contact printing except as a last resort.

At that time, several companies in Switzerland had developed machines capable of extruding spiral multicolored plastics on wire. Their products were beautiful and exceptionally sharp in color contrast.

However, the extrusion speeds of these machines were not adaptable to produce economically the millions of feet of wire required by the Bell System.

Actually, no devices were available to produce color-coded dot-dash wire at an extrusion speed which would make this operation economical and competitive with existing manufacturing methods of producing textile-insulated wires.

However, a longitudinal striping method of color-coding plastic wire at high speed had recently been perfected by the Western Electric Co.

Color Coding Machine

Our first experiment with high-speed marking involved the use of a paint gun. The orifices for the compressed air and ink were adjusted to give 1/16 inch marks on the wire as it passed the muzzle of the gun. The effect was just about what you would expect it to be. Tear-drop-shaped blobs of various sizes occurring at random along the wire. These samples were not acceptable.

The next step involved a motor-driven revolving disk *(Fig. 1)*, open-faced on one side, having a retaining rim V-shaped on the inside and flat on the outside of the periphery. Tiny holes were drilled in the retaining rim at the apex of the V.

Ink was introduced into the V of the whirling disk at the same rate it was used by means of a reservoir with a stopcock and tube. The wire to be coded ran parallel to the drive shaft of the disk and very close to the periphery.

We learned a great deal about the technique of color-coding with dots and dashes with this device. Single dots, double dots or dots in groups of threes and fours could be placed distinctly on one side of the wire as it passed along and at any desired spacing.

Dashes could be made by making the dots so close together that the ink merged into a dash before it dried.

All of these experiments were performed with cold PVC-insulated wire. The capstan was far enough away from the device (about 30 feet) to allow the ink to partially dry before reaching the take-up reel.

With cold wire we had considerable trouble proving we could get a dash by a group of closely spaced holes in the rim, until we used cyclohexanone as a wetting agent preceding application of the ink. This prevented the ink from coalescing into a big dot, thus furnishing a long dash.

This device pointed out the real problems to be encountered if the project were to be successful, namely:

(1) What to do with the excess ink.

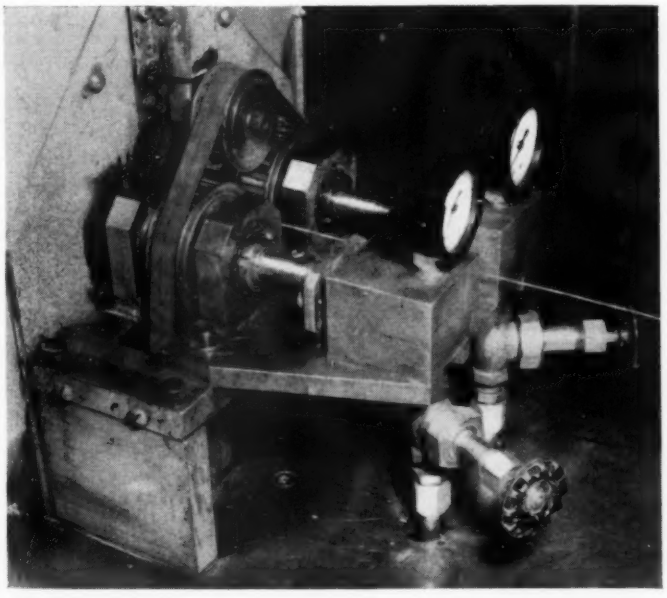


Fig. 4

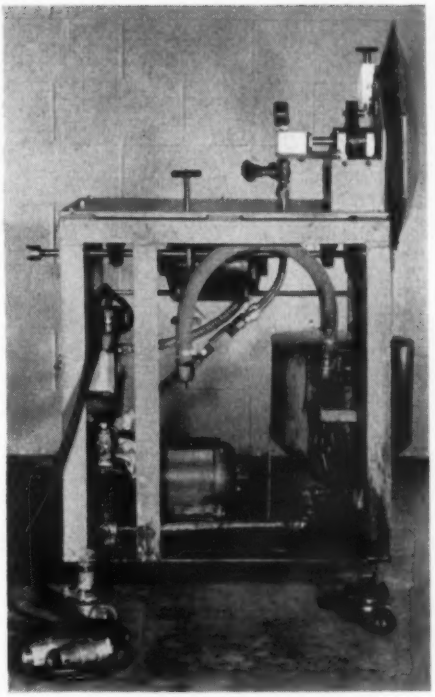


Fig. 5

(2) Centrifuging of the pigment out of the ink.

(3) How to dry the ink fast enough to prevent it from being washed off of the wire by the water in the cooling trough.

(4) Clogging of the tiny holes by solid impurities and inadequate colloidalizing of the pigments in the ink.

In fact, at this point in our experiments it seemed absolutely necessary to:

(A) Use pressure. *(Fig. 2)*.

(B) Develop a new type of ink.

(C) Filter the ink before it reached the tiny holes *(Fig. 2)*.

(D) Use two whirling disks in tandem *(Fig. 2)* driving by a timing belt or chain with some provision for altering the relationship of any particular dot or dash on the rims while they were in motion. In this way, we hoped that one perforated disk spouting jet streams of ink in one compartment would color the top of the wire as it passed through the hood, and the second disk in the adjacent compartment would color the bottom of the wire at the same point the top spot was applied.

Fig. 3 and *Fig. 4* illustrate the timing device used to attain correct register while the coding machine is running at full speed.

Using a stroboscopic light *(Fig. 8)* we have been able to obtain very good register at about 2000 FPM (feet per minute, wire speed), and above, by actually seeing when the dots and dashes coincide as they emerge from the hood of the coding machine.

The next phase in our development was to build a machine in accordance with the plans outlined in the paragraphs above and illustrated in *Fig. 2*.

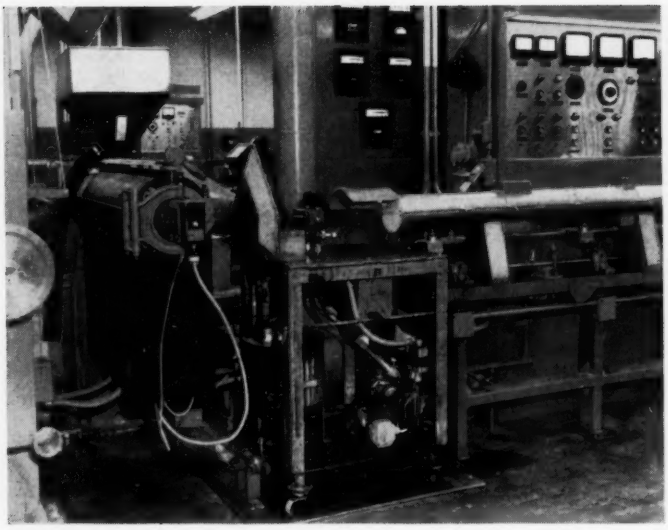


Fig. 6

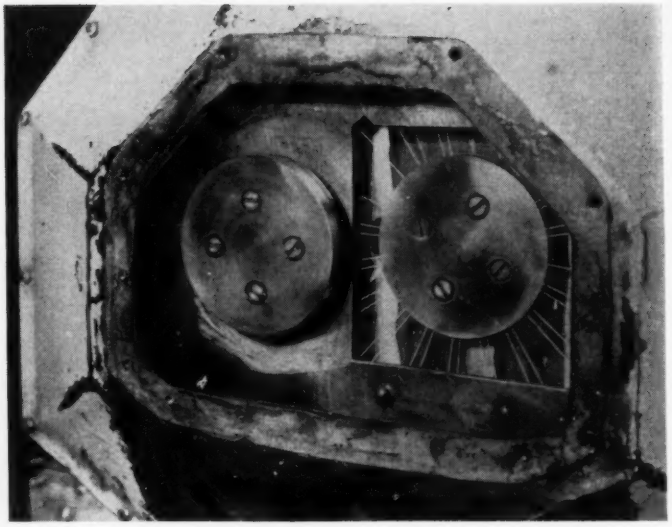


Fig. 7

In the first model, the disks were driven by a d.c. motor connected in series with a resistance so we could vary the speed of the disks. The gear pump for supplying ink from the reservoir to the whirling disks through hollow shafts, was run by another motor on the lower floor of the machine *(Fig. 4)*. Furthermore, the first hood to catch the unused ink and return it to the tank was not compartmented.

With this machine we learned that dots and dashes could be put on wire at any specified intervals and at extrusion speeds at about 2000 FPM; the disks could be timed with a timing belt and pulleys to yield bands of ink around the wire.

By means of the plumbing and valves illustrated *(Fig. 2)* we were able to vary the ink pressure to suit the disk speed and wire speed and also mix the unused ink from the hood with the fresh ink in the reservoir. A 100 mesh filter kept out particles which were too large to pass through the 0.018-inch holes in the rims.

To our amazement, spurious blobs of ink on the wire between the dots and dashes were comparatively few considering how busy the ink was, splasharound inside the hood.

However, a number of refinements were still necessary, i.e., a partition in the hood between the two disks to reduce splashes; sharper angles all around the edges of the hood so the excess ink would be diverted against the opposite side with a minimum of "head-on" impact; an ink which would "set" almost instantly on the hot plastic-coated wire so it would not be washed off in the water trough and not be too sticky when rewound, and whose pigment would not centrifuge out in the "dead-end" spaces between the pinholes of the rapidly revolving rims.

Due to the pressure, ink leaked out of the beveled surfaces of the screwheads holding the rims to the base plates. It leaked through threads of drilled and tapped holes and all interfaces connected with the quick removal of the coding rims. All of these tiny leaks put extra dots on the wire where they should not have been.

We overcame these difficulties by using vellum gaskets under the screw heads and between the coding rims and their baseplates. Holes in the rim baseplates were counterbored and tapped.

A new ink not then available on the market was developed involving the use of PVC color concentrates and a mixture of Tetrahydrofuran and methyl ethyl ketone.

When all of the above developments were incorporated in the process we had a commercial color coding machine that would put dots and dashes on PVC-insulated wire at extrusion speeds of about 2000 FPM and above *(Fig 5)*.

Operation of Color-Coding Machine

The final step toward continuous production was attained when we tied in the color-coding machine with the

(Please turn to page 47)

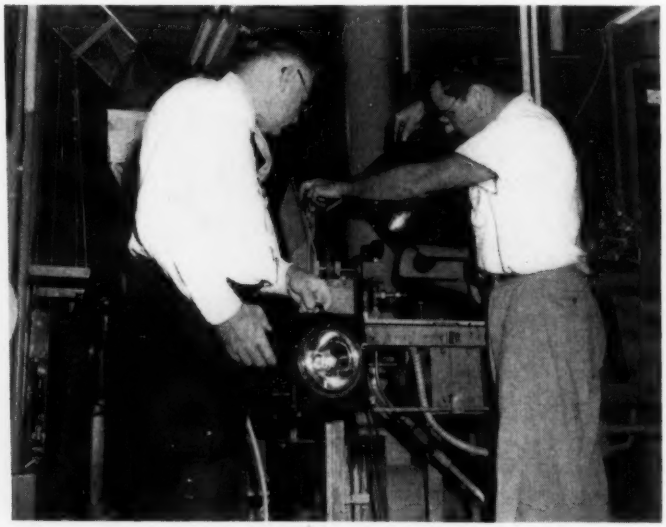


Fig. 8

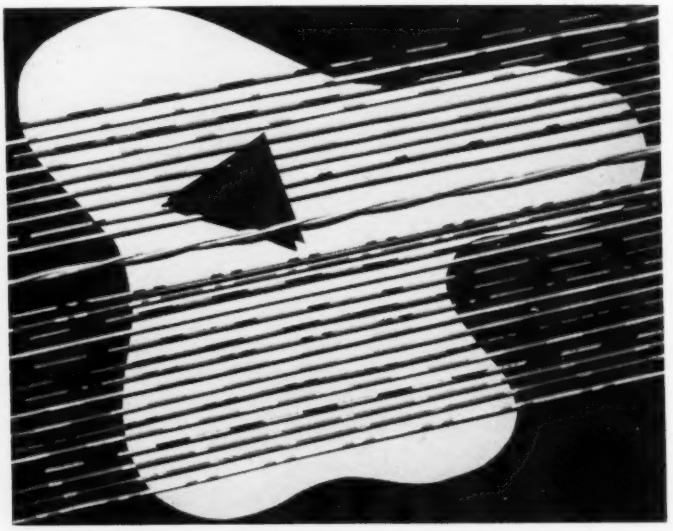


Fig. 9

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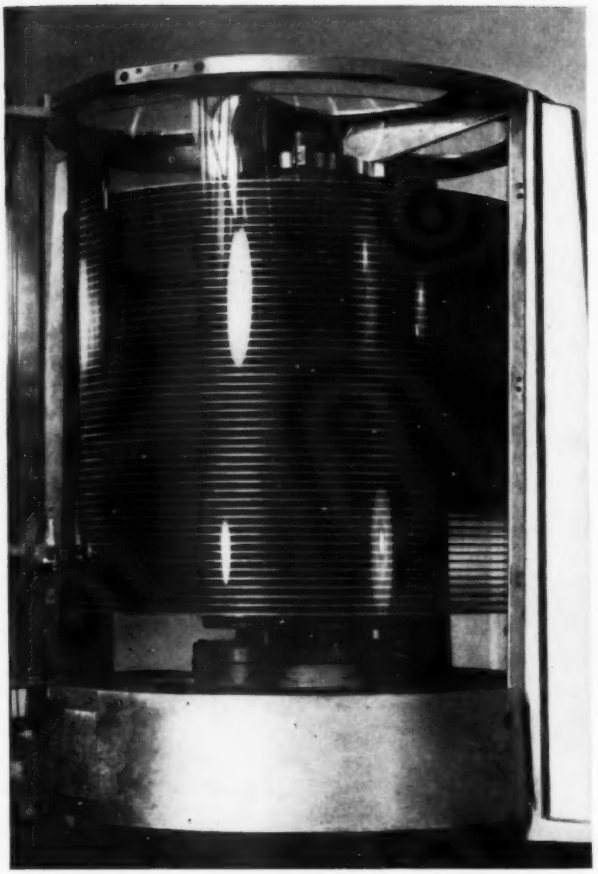

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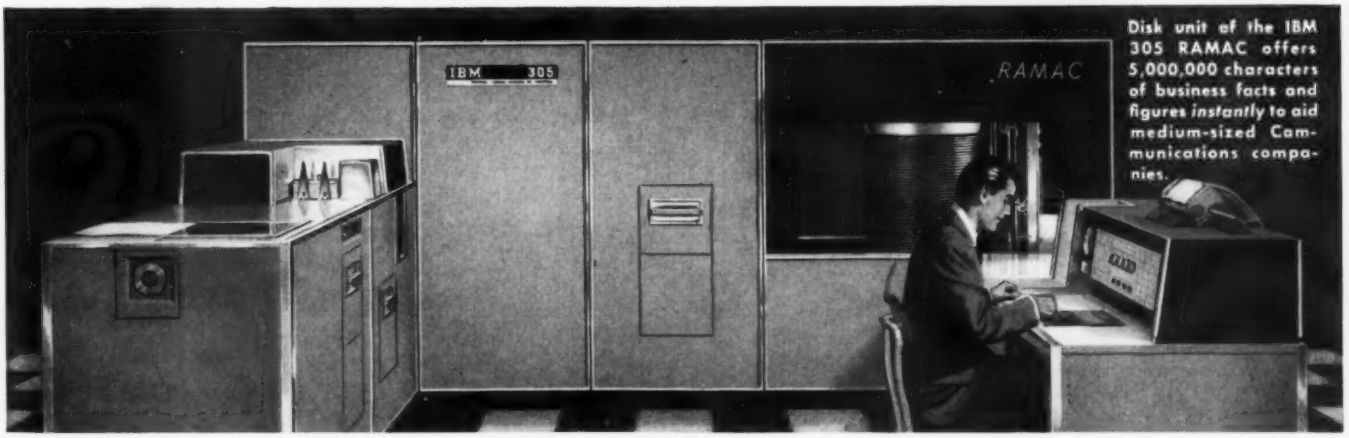
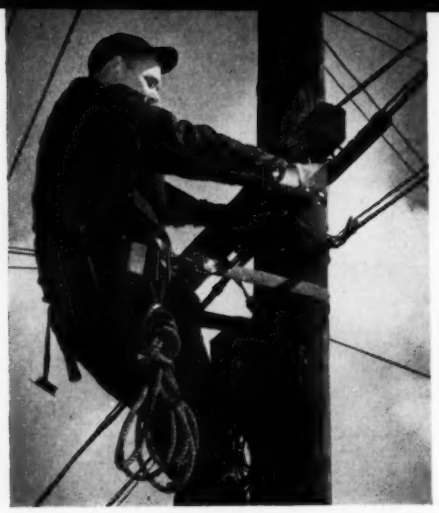


Disk unit of the IBM 305 RAMAC offers 5,000,000 characters of business facts and figures *instantly* to aid medium-sized Communications companies.



THE Plant Man's Notebook

BY RAY BLAIN, TECHNICAL EDITORIAL DIRECTOR

WHILE WAITING for our plane's departure in the Philadelphia Airport the other day we noticed a novel telephone arrangement that should pay big dividends.

Large pictures and posters describe various local hotels. Directly beneath them is a private telephone which connects with the reservation desk in the hotel. Strangers coming to town without a hotel reservation may check the pictures and description, select the hotel of their own choice, use the free telephone and make a reservation. This would appear to be a fine idea and one that could undoubtedly be adopted by the Independent industry in many localities.

•

A new portable voice frequency repeater package has just recently been placed on the market.

This package contains four repeaters and weighs only 40 pounds, is 14 inches high, 8½ inches wide, and 10½ inches deep with cover in place. It is equipped with a power supply that provides 48 volts ac and 130 volts dc for filament and plate supply.

This unit has been designed to meet special and urgent service requirements and to make field tests to determine transmission improvements required.

•

The writer recently made a trip by air from Washington, D. C. to El Paso, Tex., and return. The trip out was routine with a short stop at Dallas where we changed airplanes. Soon after we started west from Dallas, the captain announced over the public address system that the weather ahead was good, but we could expect to encounter some dust. Later, we found this to be the understatement of the year for when we arrived over the airfield at El Paso the ground was not visible from 5,000 feet.

After circling the field for about 30 minutes, we finally landed and the pilot is to be commended for a job well done. We wondered though how he could tell when to pick up the airstrip for to us the air and the ground looked identical. We can now believe that story about the Texas gopher digging a hole 6 feet above ground.

•

Telephone troublemen and installers generally carry a flashlight which invariably proves extremely useful. This emergency light is now made even more valuable by providing it with a continuity testing arrangement. This is made possible by installing a jack in the end of the flashlight.

Test leads with clips are plugged in and the button on the flashlight placed in the closed position. Now when the test clips are contacted the light will flash.

This arrangement will prove invaluable for telephone workers in the testing of fuses, wiring, switches, etc., for continuity.

With two of these testers in series, it is possible for two men to check cable conductors for a reasonable distance. Approximately 1,000 feet of 18 gauge to 5,000 feet of No. 12 gauge may be tested in this manner.

•

We are probably going to see a considerable amount of buried cable installed in our plants during the years ahead. There is no doubt that small cables of the plastic-insulated and jacketed variety will be buried in large amounts now that satisfactory, small, and comparatively inexpensive plows are available.

In many cases, buried wire or cable will prove more economical than aerial plant.

One type of cable recently developed for direct burial is known as "B" service wire. Four fully-color-coded polyethylene-insulated conductors surrounded by two high quality polyvinyl jackets and a spirally-applied aluminum tape, offer mechanical protection and also the highest quality electrical characteristics available in a product of this type.

•

It is reported that Standard Telephones & Cables, Ltd., of England, has developed a transistorized carrier system for rural service.

This system permits the transmission of up to 10 two-way speech circuits over one open-wire pair. Although primarily intended for use on open wire, it may also be used on cable.

The system is of the stackable type. The "go" and "return" channels are normally adjacent in frequency. Circuits may be taken off, singly or in any number, at convenient points along the route, as required.

The channel bandwidth is 300 to 3,400 cycles. By the use of a compandor in each channel, the channel filter requirements are simplified and noise and crosstalk are reduced to a reasonable level.

Dependent upon line characteristics and the number of channels required, the manufacturer claims good quality transmission over distances of 50 miles or more. Further, that special line transposition systems are not required.

It has been said that there is no place like home—for accidents.

•

The *Wall Street Journal* recently carried a story titled, "The Medical Journal that Talks," which explains how 4,000 doctor subscribers keep abreast of their profession through a magazine which they listen to.

This is *Audio-Digest*, a five-year-old weekly, which is "printed" electronically on magnetic tape and mailed throughout the world by the Audio-Digest Foundation of Hollywood, a

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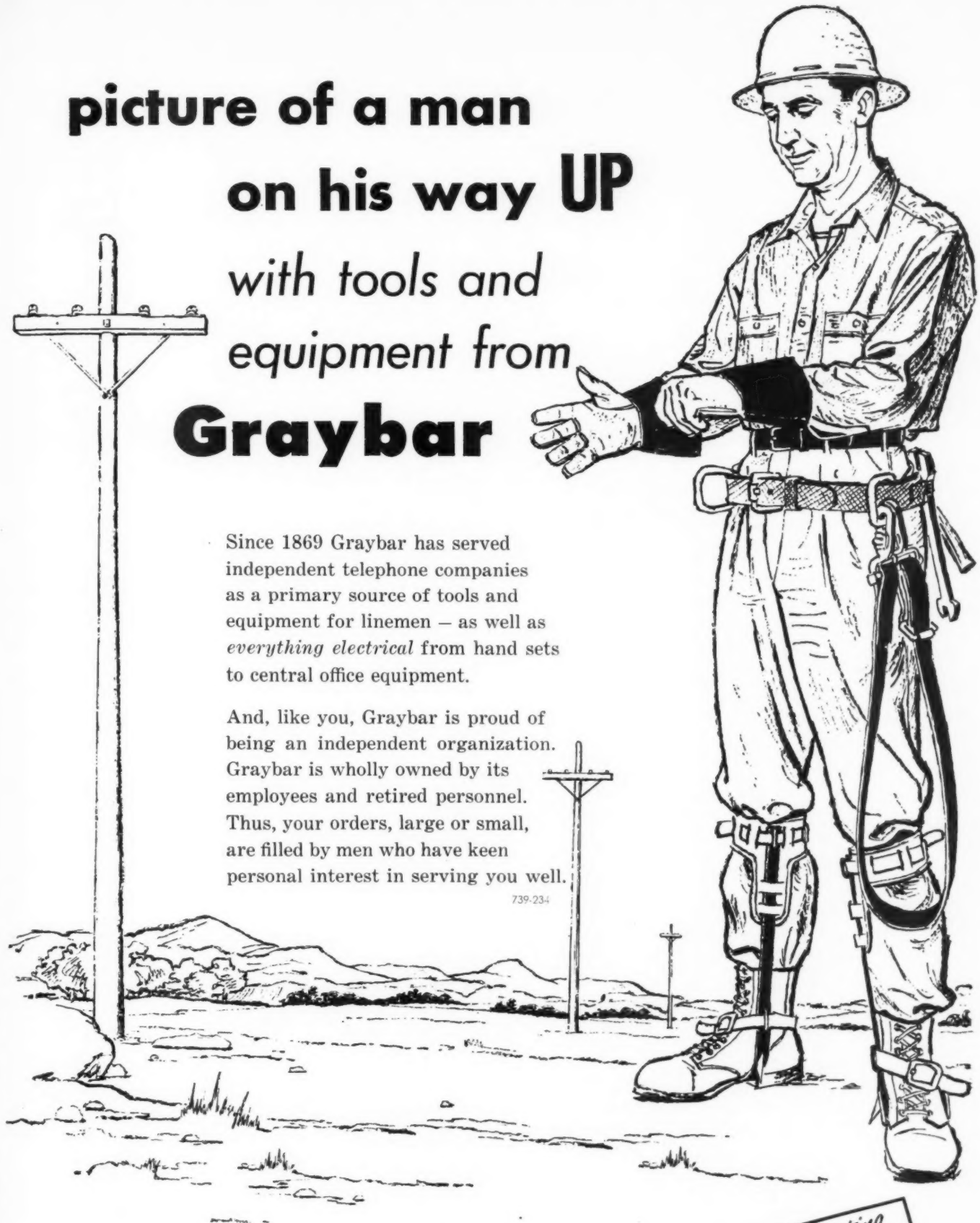
picture of a man on his way UP

with tools and equipment from

Graybar



Since 1869 Graybar has served independent telephone companies as a primary source of tools and equipment for linemen – as well as *everything electrical* from hand sets to central office equipment.

And, like you, Graybar is proud of being an independent organization. Graybar is wholly owned by its employees and retired personnel. Thus, your orders, large or small, are filled by men who have keen personal interest in serving you well.

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subsidiary of the California Medical Association.

Designed for busy physicians who haven't time to read all the medical journals, Audio-Digest offers an hour-long recorded summary of news from the journals and special reports by pioneers in medical research.

Who knows but that we may someday have something of this nature in the Independent telephone industry. Certainly recorded information is a most convenient means of providing information to any group of technicians who strive to keep up-to-date in their professions.

•

We all know that in a few brief decades the auto made the horse obsolete. If we don't reduce the accident rate, in a few more, it may have the same effect on the pedestrian.

•

A new type masonry anchor is now available that is installed by driving the stainless steel pin which protrudes from the head of this one-piece unit.

This action causes four expanding prongs to be forced out which grip the wall within a masonry hole for permanent fastening. A wide variety of sizes are available.

•

A pocket-sized tape recorder which operates on batteries is now available and should serve many useful purposes.

This recorder is equipped with a single earphone, crystal microphone, batteries and a 60-minute cartridge of magnetic recording tape.

•

If any of our readers have had any experience with the new fiber glass extension ladders we would be pleased to have a report as to their suitability for general telephone work.

These fiber glass ladders are supposed to combine the superior strength-to-weight ratio of light-weight metal ladders with the non-conducting qualities of wood ladders. This should make them ideal for telephone work unless they have some unforeseen disadvantages.

•

We enjoyed a visit in Washington, D. C., recently with Charles A. Hayne, systems development consultant for Federal Telecommunications Laboratories at Nutley, N. J.

Mr. Hayne has some original ideas on automatic ticketing for telephone systems which, in our opinion, hold great promise for future improvements in our communication systems.

Plant Man's QUIZ

By RAY BLAIN, Technical Editorial Director

Q. What method is recommended for the removal of the insulation from main frame jumper wire to avoid nicking or damaging the conductor?

A. In our opinion, the best method is to utilize modern wire-stripping tools now available.

One such stripper, recently placed on the market, has an adjustment that may be changed to meet various wire sizes. This tool removes the insulation neatly and quickly without any danger of causing wire damage.

•

Q. Will there be any objections to grounding a telephone station protector to a pipe on a gas system?

A. When a water pipe is not available there is no objection to making a connection to an extensive underground gas pipe system.

Where practicable this connection should be made between the gas meter and the main.

•

Q. Can you please furnish a description of the Kineplex Data System that we have been hearing so much about of late?

A. The Kineplex Teleprinter System is a flexible, high capacity system for transmission of DC telegraph "start-stop" information over radio, wire line or microwave facilities. It provides for transmission of this data up to 100 words per minute per channel and will handle a maximum of 40 channels in a 3 Kc band.

Non-synchronous telegraph "start-stop" signals from a teleprinter circuit are converted to synchronous data in the code converters. This informaton is then converted to audio tones with two channels per tone. Twenty tones are spaced 110 cps apart and cover the range 605 to 2,695 cps. The separate tones are combined for transmission to the voice frequency transmission equipment.

At the receiving equipment, these tones are distributed to the detector circuits for detection. When diversity receiving is required, the two outputs of two detectors are combined in the detector sampling unit. Completely regenerated synchronous data are transmitted to the keyers. The information is converted to non-synchronous DC telegraph "start-stop" signals for transmission to the teleprinter circuit. Relays are not used to provide the standard 60 ma neutral output.

•

Q. We have several customers who have telephones located in noisy shops and in consequence it is most difficult to understand anyone talking from one of these telephones. Can you advise the best means of correcting this type of trouble?

A. There is a special telephone now on the market that gives good service in noisy locations. You might also install a low cost doorless type telephone booth. One such booth requires very little space as it is only 28 inches wide, 30 inches high and 23 inches deep at the top. The shelf at the bottom is 15 inches deep. Small though it is, this booth will accommodate a large man and gives very good service.

•

Q. Will you please advise us whether the use of Copperweld tie wire for holding hard-drawn copper on insulators on open wire lines will prove satisfactory?

A. This practice has been in use for many years and has proved entirely satisfactory.

Actually, Copperweld tie wire offers numerous advantages over copper for attaching copper-type conductors to insulators. It provides greater strength, and is more economical than copper. Copperweld tie wire, being fully annealed, is soft and pliable, and may be easily used to give strong, tight ties with extremely good holding power.

Copperweld tie wire is made from 40 per cent copper material for which the minimum thickness is approximately one-eighth of the radius of the wire. It is available in coils or in straightened and cut lengths.

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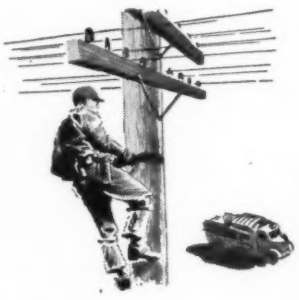
Being interviewed is R. R. Jardine, Supervisor of Development Engineering

"Open windows let electrolyte in—power out"

At the Exide Laboratories—**Reporter:** You mean there's an important connection between the electrolyte and the battery power?



Jardine: Yes indeed. You see how I'm running these strings through the "windows" in the Exide-Manchex positive plate? These openings give the electrolyte free access deep into the interior of the plate.

Reporter: How does that affect battery performance?

Jardine: It means there's no time lag—no slow filtering of the electrolyte to reach the active material. There's a continuous contact between the electrolyte and the entire plate. So the power is there when it's called for.

Reporter: Do other batteries have this free access of electrolyte to the active material?

Jardine: No they don't. Because only the Exide-Manchex has the positive plate with the spiral lead buttons locked into a cast alloy grid.

Reporter: Obviously this is an important feature of the Exide-Manchex Battery.

Jardine: Yes it is, but it's just one of many engineering details that contribute to their long life and high capacity.

Note to battery users: When you order batteries for float or cycle service in stationary applications, be sure to specify Exide-Manchex. Write for detailed bulletin. Exide Industrial Division, The Electric Storage Battery Co., Philadelphia 2, Pa.

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Iowa Independents Plan 100 Per Cent Conversion To Dial by End of 1963

By R. C. RENO

WITH THE theme "PRogress 4-1957" setting their pace, 900 Independent telephone operating and manufacturing representatives set a record attendance for the 62nd annual convention of the Iowa Independent Telephone Association, held April 2 and 3 in Des Moines.

Convention delegates heard speakers and panel discussions covering many phases of the telephone business ranging from accounting to legislation, with special attention being given to the accelerated program of converting Iowa Independent company exchanges to automatic operation.

In addition to the industry representatives, 143 Iowa state senators and representatives—all but 15 of the total number of legislators—attended the convention banquet as guests of the Iowa association.

In opening the convention, Association President Ross K. Vernon of Sioux Center, reviewed the progress and growth of Iowa Independent industry and called for continued cooperation on the part of all Independent companies to meet the challenge of providing adequate service in the future. He urged the convention to consider the future of the Independent industry in terms of expanding and rehabilitating exchanges, new services, new merchandising programs, new financing methods, adopting technical advances, management training, recruiting younger and trained personnel and coordinating efforts of Independent companies to improve their operations.

"We know that any future increase in our business will not just fall neatly into our laps. We must continue to seek ways and means to sell and to improve our service if we are to increase our revenues," Mr. Vernon stated. Concluding, the president stated:

"Meeting the challenge of the future for Independent telephony will mean continued cooperation through associations as a common bond. Such cooperation will help the industry to continue its advance and to meet the service needs of the public and in supplying it with the best possible service."

Independent companies which find it impossible to secure new capital for expansion and rehabilitation of their properties from private sources, were urged to consider applying for loans from the Rural Electrification Administration by E. C. Weitzell of Washington, D. C., chief of the REA Telephone Operations and Loan Division.

Discussing the improvement and expansion of rural telephone service in the nation, Mr. Weitzell reviewed the results of a sampling survey of farm telephone service recently made by the U. S. Department of Agriculture.

On a nation-wide basis, the percentage of farms with telephones jumped from 38.2 per cent in 1950 to 51.9 per cent in 1956. This is the first time, Mr. Weitzell said, that at least half of the nation's farmers have had telephones. For the seven west north-

(Please turn to page 34)

The registration desk was nearly swamped at times as nearly 900 persons registered for the 62nd annual convention of the Iowa association.

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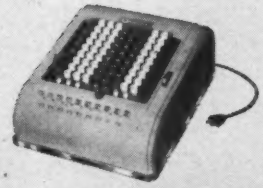

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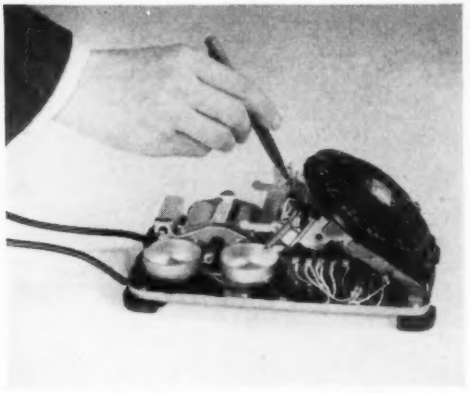
de it to last forever!"

The first time you peek inside Automatic's Type 80 Monophone, you're *sold!* You're convinced that here's a telephone that's built to last.

Following are a few simple tests that will convince you even further:

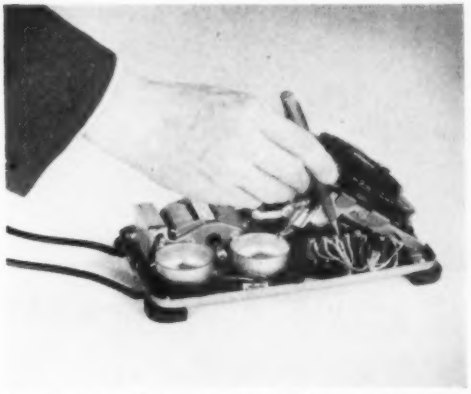
ake off the housing—and don't be gentle with it! Flex it this way and that; it can take ard handling without cracking.

2

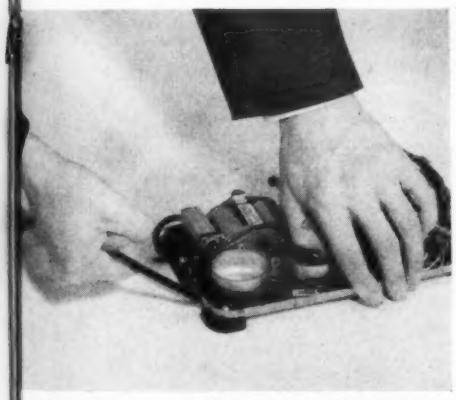


Check the twin contacts and dust covers on the sturdily-built hookswitch and the smooth-working dial. They'll keep servicing down!

3

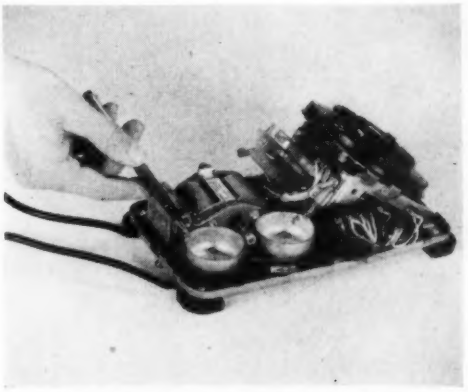


Look at the balancing network unit. It's completely moisture-sealed—could be kept under water for years and still work without the slightest trouble.



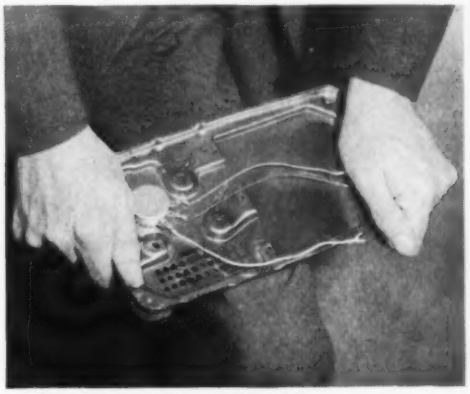
wist the cord, yank it, scrape it—it'll stay in ood shape. It's long-wearing, kink-resistant, oisture proof.

5



Examine the ringer, too. It's sensitive and dependable, built to ring true through long years of hard use—can be removed with only a screwdriver (like all Type 80 components).

6



Try to bend the baseplate. It's a strong, heavy piece of metal. It stays rigid, keeps every component perfectly aligned.

Every day more customers are trying tests like these—
and signing very nice orders as a result. Which they never regret.
For Type 80 Monophones keep their maintenance down,
and please their subscribers mightily. They will do the same for you.
Why not send your order in today? Address:
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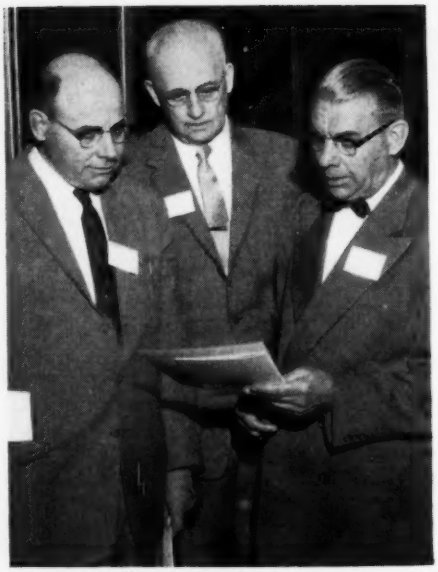
central states, which includes Iowa, the per cent of farms with telephones increased from 62 per cent in 1950 to 70 per cent in 1956, the survey showed. Eighty-eight per cent of farms in Iowa have telephone service.

Mr. Weitzell reported the survey showed that on July 1, 1956, about 55 per cent of America's farms with telephones had dial service; about 18 per cent had common battery service, and 27 per cent had magneto service. Compared to the national figures, in the west north-central states, only 35 per cent of telephone service was dial and 52 per cent was magneto.

"While we know there is much improvement in rural service underway right now, there is much more to do. Practically all of the new telephones being installed on farms today are dial and many exchanges and systems have been rebuilt with automatic equipment and new outside plants. This program must continue if farmers are to receive the service they demand, are entitled to, and for which they are willing to pay higher rates," Mr. Weitzell said.

A report of proposed state legislation affecting the telephone industry, was given by Clyde McFarlin of Montezuma. Mr. McFarlin is president of the Iowa association's legislative committee. Most of his report concerned six bills introduced in this session of the Iowa legislature to regulate public utilities, including telephone companies. Iowa telephone companies are not now regulated by the state.



In a huddle to check the program of the Iowa convention are, left to right, L. C. Bruner of Fort Dodge, district commercial manager of the Central Telephone Co.; Loyd Morrison of Grinnell, honorary director of the association; and Ed Swanson of Des Moines, Independent company relations engineer, Northwestern Bell Telephone Co.

While it is felt that none of the present proposed bills will pass, Mr. McFarlin warned that the day is coming when telephone companies will be regulated and they will not be realistic if they do not squarely face that fact. He advised them to start thinking in terms of a good regulatory act in order to avoid the possible eventual passage of unrealistic and unworkable legislation.

Hugh A. Barnhart, president of the Rochester (Ind.) Telephone Co., and second vice president of the United States Independent Telephone Association, reviewed the activities of the national association and asked Iowa Independents to make special effort to celebrate the association's 60th anniversary in their communities this year.

"The Independent telephone industry has a long record of progress in serving a great portion of the geographical area of the United States under the private enterprise system. Independent companies are probably the most outstanding example of business enterprise in the American Way of Life and all of them must do everything possible to maintain the Independent industry's status and important position in the over-all telephone industry," Mr. Barnhart said.

He warned that meeting the future challenge facing Independent companies in supplying service to the growing population in many of their communities will present many serious problems, but that they can be solved if each Independent company meets its own responsibilities and joins with other Independents through state and national associations in a cooperative

Directors and officers of the Iowa Independent Telephone Association. First row, left to right: Earle Bellamy of Knoxville; A. W. Sanders of New London; Loyd Morrison of Grinnell; H. B. Melick of West Liberty; Clyde McFarlin of Montezuma; Arthur Long of Sloan, and Ross Vernon of Sioux Center. Second row, left to right: L. E. Travis of Newton; John McIntosh of Cedar Rapids; E. G. Carlson of Creston; C. C. Pearce of Riceville; J. L. Trevillion of Chariton; E. B. Zerwas of Manning, Harold Thompson of Clear Lake; Roy E. Brandel of Mt. Pleasant; M. F. Oberg of Des Moines; V. D. Peck of Primghar; William F. Miller of Des Moines, secretary-treasurer. Not present when picture was taken were Directors W. H. Fowler of Pella; A. L. Kelley of Clarinda, Joseph L. Van Horn of Grinnell and Henry F. Melick of West Liberty. Mr. Morrison and H. B. Melick are honorary directors.

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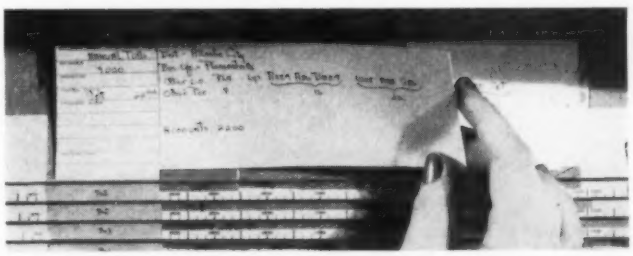

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effort to solve the future problems of the industry.

Following Mr. Barnhart's address there was a panel on workmen's compensation and public liability insurance. The moderator was Philip E. Jester of Des Moines and the participants were Charles J. Smith of Des Moines and William I. Woodall of Burlington, Iowa, all representatives of the insurance business.

The major portion of the report of W. F. Miller, secretary-treasurer of the Iowa association, was devoted to two subjects—the trend toward consolidation of Iowa Independent companies and the accelerated program of conversion to automatic operation of Independent exchanges in the state.

"During the past year the consolidation trend has continued. The year ending Dec. 31, 1955 was the first year in which the number of Independent commercial companies in Iowa dropped below 500 in number. At the present time the number of Independent companies in the state has decreased to 470. I think the consolidation trend will be accelerated as time goes on and, within a few years, we may be down to 100 to 150 companies—or at least well under half of the present total," Mr. Miller said.

Regarding the dial conversion program, Mr. Miller reported that by the end of 1957, Iowa Independent companies will have converted 171,580 telephones to dial, or nearly half of the estimated 353,000 Independent telephones in the state. More than 80 per cent of these conversions have been accomplished in only the last five years.

"It is the goal of the Independent industry in Iowa to bring about the complete conversion of all its telephones by the end of 1963. This will mean the conversion of 233,000 additional telephones to dial, or nearly twice as many as were converted in the last 26 years," Mr. Miller emphasized.

He stated he realized that the future conversion program is a big task, but he told his listeners that if all Independent companies will cooperate with one another and with the Iowa association's small company assistance committees, he feels certain that the job can and will be done.

Following Mr. Miller's report, an accounting symposium was held. Those taking part were: Carl F. Eichler of New London, assistant treasurer, Iowa-Illinois Telephone Co., moderator; Marvin R. Bishop of Cedar Rapids, accounting supervisor, Central Iowa Telephone Co.; Clarence Henry of Creston, auditor and commercial manager, Creston Mutual Telephone Co.; Arthur

Taking time out to concentrate on a fine point of business during the Iowa convention are these two executives of the Central Iowa Telephone Co.: John McIntosh (left) of Cedar Rapids, vice president and general manager, and M. R. Thompson of Toledo, general commercial and traffic manager.

G. Kiesling of Madison, Wis., Kiesling and Gilbertson accounting firm; C. C. Pearce of Riceville, president, Farmers Telephone Co.; V. D. Peck of Primghar, secretary-treasurer and manager, Primghar Telephone Co.

The convention adjourned following an illustrated address by Marvin F. Oberg of Des Moines, vice president and general manager of Northwestern Bell Telephone Co., on the subject "Long Distance Dialing in Iowa." He described the long distance switching system which will go into service in Des Moines on June 16, and said it was the largest single project in Iowa telephone history.

Altogether, he said, Bell and Independent companies in Iowa are investing about 5 million dollars in long distance mechanization alone in the two-year period of 1956-57. Extending from the Des Moines system will be 1,272 dialing lines, of which about 700 will terminate in 44 other Iowa long distance switching centers. Some 600 others will terminate in key cities from coast to coast. Mr. Oberg pointed out that it is estimated that 60,000 or more calls a day will automatically be switched in, out or through the Des Moines center—more than double the number dialed today.

The association re-elected seven members of the association's board of directors as follows: Earle Bellamy of Knoxville; Ross K. Vernon of Sioux Center; E. G. Carlson of Creston; A. L. Kelley of Clarinda; V. D. Peck of Primghar; A. W. Sanders of New London, and J. L. Van Horn of Grinnell.

Hold-over directors are: R. E. Brandel of Mt. Pleasant; W. F. Fowler of Pella; A. E. Long of Sloan; Clyde McFarlin of Montezuma; J. J. McIntosh of Cedar Rapids; H. F. Melick of West Liberty; M. F. Oberg of Des Moines; C. C. Pearce of Riceville; Harold Thompson of Clear Lake; L. E. Travis of Newton; J. L. Trevillion of Chariton and E. B. Zerwas of Manning. L. F. Morrison of Grinnell and H. B. Melick of West Liberty are honorary directors.

The directors re-elected the following officers: President, Mr. Vernon; first vice president, Mr. McIntosh; second vice president, Mr. Thompson, and secretary-treasurer, W. F. Miller of Des Moines.

Fincher Named to Louisiana Post With Southern Bell

Murray C. Fincher, of Atlanta, an assistant vice president of the Southern Bell Telephone & Telegraph Co. in its public relations department, has been appointed assistant vice president-operations of the company for Louisiana, with headquarters at New Orleans.

A native of Alabama, Mr. Fincher attended high school at Brundidge and was graduate from Birmingham-Southern College in 1934. He was with the Birmingham *News-Age-Herald* for five years in news and editorial work. He joined Southern Bell in Atlanta in 1939 as a writer on its employ magazine and advanced through the ranks to positions of increasing responsibility.

He became the company's general public relations manager in 1952 and was appointed assistant vice president in 1953.

He is a director of the Atlanta chapter, Public Relations Society of America and also of the national organization.

Telephone Service Set Up Between U. S. and Vietnam

Telephone service is now available between the United States and Vietnam, located on the southeastern tip of Asia, the Long Lines Department of American Telephone & Telegraph Co. announced on May 6.

According to the announcement, telephone calls at Vietnam will be routed through Japan by radio. The distant terminal is at Saigon, Vietnam capital.

The rate, exclusive of tax, for a three-minute call to Vietnam from any point in the United States is $15.

XUM

17 toll calls... billed in a minute

Recordak System eliminates description on bill!

HERE's all you do to bill 17, or even more, toll calls in one minute—just add up ticket charges . . . list total and tax on bill—then photograph both tickets and bill in a Recordak Microfilmer! The job's done in a fraction of the time previously needed.

Original toll tickets are sent to customer with the bill. You keep a complete picture-perfect film record at your finger tips.

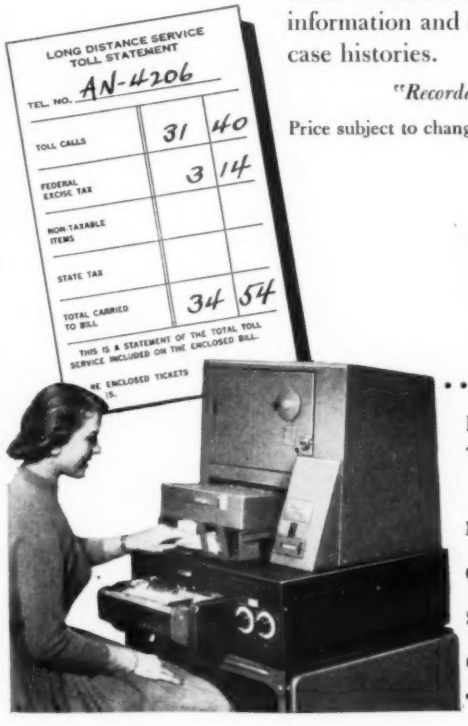
Result—billing costs are cut 45% or more . . . tedious transcription work is eliminated . . . chances for errors are sharply reduced.

Subscriber's questions are answered in advance by detailed information on original toll tickets. Charges are readily recalled . . . bills are paid without fuss or delay.

More than 300 telephone companies are now using this system. All you need is a Recordak Microfilmer which sells for as little as $550, and is also available on a low-cost rental basis. Write for detailed information and copies of actual case histories.

"Recordak" is a trademark

Price subject to change without notice


LONG DISTANCE SERVICE
TOLL STATEMENT
TEL. NO. AN-4206
TOLL CALLS 31 40
FEDERAL EXCISE TAX 3 14
NON-TAXABLE ITEMS
STATE TAX
TOTAL CARRIED TO BILL 34 54
THIS IS A STATEMENT OF THE TOTAL TOLL SERVICE INCLUDED ON THE ENCLOSED BILL.

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Gentlemen: Please send folder describing Recordak Toll Billing System in detail.

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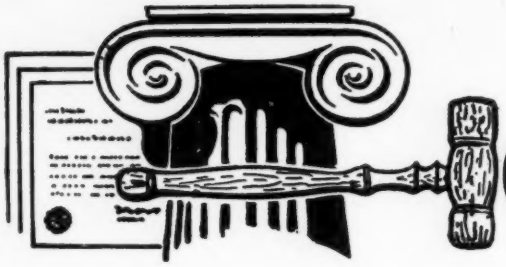


Courts and Commissions

North Carolina Company's Financing Plan Approved

The Lexington Telephone Co. on April 29 was authorized by the North Carolina Utilities Commission to finance expansion of its operation by an exchange of stock.

Under the plan, the company will exchange its present $100 par value common stock (both voting and Class B non-voting) for new stock having no par value, on the basis of five shares of new stock for each share of old stock outstanding.

The company also will offer for sale, in one or more series, up to 1,000 shares of cumulative preferred stock having a par value of $100 per share, at a price of not less than $100 per share, and paying a fixed annual dividend of not more than $6.00 per share.

It also will offer for sale up to 5,000 shares of Class B non-voting, common stock at a price of not less than $20 per share.

FCC Names F. W. Clayton To Common Carrier Post

The Federal Communications Commission announces the appointment of Fred W. Clayton as assistant chief of its Common Carrier Bureau effective June 1. Mr. Clayton has been a member of the Nevada Public Service Commission.

He was educated at Bakersfield Junior College, the University of California and the University of Nevada, and has held various engineering positions with public and private interests in the West.

Wis. Co-Op Asks to Sell

The Wisconsin Public Service Commission on May 7 was to hear the application of the Price-Neva Telephone Cooperative for authority to sell to General Telephone Co. of Wisconsin its property in the towns of Price, Neva, Polar and Antigo.

OKs Sale of Two N. C. Lines

Central Telephone Co. was authorized by the North Carolina Utilities Commission on April 27 to abandon two rural lines and to sell the rights to the lines to the Skyline Telephone Membership Corp., West Jefferson, a cooperative. The services to be abandoned are the West Jefferson-Glendale Springs and the Sparta-Transou lines.

NW Bell Petitions for Rate Relief in North Dakota

The Northwestern Bell Telephone Co. on April 15 asked the North Dakota Public Service Commission for a general increase in rates and charges.

Northwestern Bell, last granted an increase on Dec. 20, 1953, said in its application that "the continuing effect of rising costs since 1953 has been to decrease the intrastate earnings of the company below a fair and reasonable rate of return."

The application was filed by Earl W. Benser of Fargo, vice president and general manager for North Dakota. No specific schedule of rate increases is requested.

In asking for the rate increase, Northwestern Bell said wage and salary increases to employes have added $700,000 a year to its intra-state costs, and that high cost of equipment has raised the average investment per telephone from $314 in 1953 to $346 in 1956.

Minnesota Company to Sell

The Minnesota Railroad & Warehouse Commission on April 24 extended permission to the Melrose Telephone Co. to purchase the Kingston Telephone Co., serving approximately 16 stations.

Asks Financing OK in Ala.

Alabama's Public Service Commission on May 6 was to have heard the petition of Union Springs Telephone Co. to increase its capital stock from $30,000 to $50,000 and to borrow $372,000 from REA.

Illinois Company Asks Raise

The Port Byron Telephone Co. on Mar. 28 filed a petition with the Illinois Commerce Commission for an increase in rates.

C&P of West Virginia Files For $3,987,000 Rate Raise

Rate increases approaching $3,987,000 and averaging 17 per cent were sought on April 26 by Chesapeake & Potomac Telephone Co. of West Virginia in an application filed with the state's public service commission.

Net income after taxes would approximate $1,830,000.

C. H. Johnson, vice president, pointed out that telephone rates have increased since World War II only about one-third as much as prices of other commodities and services. He added:

"These too-low rates are producing even poorer returns, and yet we must compete with companies making two and three times our earnings for the new investor dollars needed to do the job people want.

"Both in the telephone industry and in other businesses we have found that companies with good earnings in the long run give the customer more for his dollar."

5% Gross Revenue Increase Sought by New Jersey Bell

The New Jersey Bell Telephone Co. on April 26 applied to the state's public utilities commission for an increase in rates which would add $14,148,000 to its gross operating revenues.

The company pointed out that it would actually realize, after taxes, less than half this amount or $6,512,000. It asserted that the boost would increase its gross operating revenues by 5 per cent.

In a statement issued in connection with the filing, the company said:

"New Jersey Bell has been subject to the same inflationary pressures which have brought about the highest costs, both in labor and material, in the history of the nation.

"By effecting the maximum possible efficiency and economy and taking advantage of every technological advance, the company has been able to hold basic monthly rate increases to 22 per cent since 1925."

The last increase granted the company was in January 1954, when it was permitted to add an estimated

(Please turn to page 43)

ANSONIA® Ankoseal TOLL QUADDED CABLES

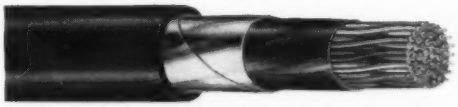
Quality that assures happy subscribers!

ANSONIA® **Ankoseal**

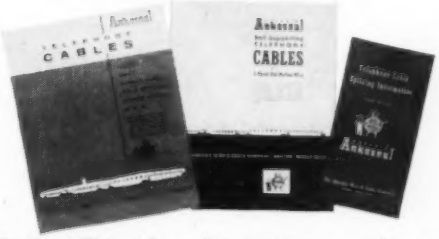
Toll Quadded Cables Assure Best Performance From Your Modern Exchanges

Throughout the country consistent performance reports prove that Ansonia Ankoseal Toll Quadded Cable gives subscribers the finest service available.

You can stop worrying about "Noisy Cable", "Excessive Cross Talk" and "Excessive Circuit Unbalance" when you install Ankoseal Toll Quadded Cable.



Available In 19 Gauge From 7 to 32 Quads



Ask For This New Literature on Ansonia Ankoseal Telephone Cables

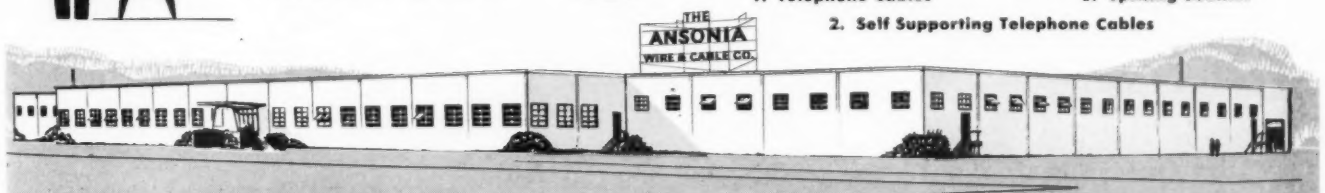
1. Telephone Cables
2. Self Supporting Telephone Cables
3. Splicing Booklet

Ansonia Ankoseal Cables

Built Up To Quality . . .

Not Down To Price!

INDEPENDENT



THE ANSONIA WIRE & CABLE COMPANY · ASHTON · R. I.

The Oldest Name In Plastic Telephone Cables In The Most Modern Plant Devoted Entirely To Producing Cables.

A modern home with

This month and next some 18,500,000 readers of nine leading women's magazines will meet the Koehler family of Indianapolis. The introduction will be through a full-color Bell System advertisement headlined "Having phones handy is such a help."

The Koehlers tell what their four color telephones mean to them in terms of comfort, convenience, pleasure and beauty. We think their story will be interesting reading for housewives throughout the country.

Advertising that makes the public aware of the value of additional telephones around the house should stimulate sales that benefit the entire telephone industry.

BELL TELEPHONE SYSTEM

XUM

h plenty of phones

XUM

construction and maintenance DIGEST

- **Wires' Shangri-la**
- **25 years young**
- **Real cool sitting**
- **Loud and useful**
- **Quick and easy**

Published regularly to help you get the most out of your materials and supplies dollar

by Ernest P. Riviere, Jr., Inside Sales—San Francisco

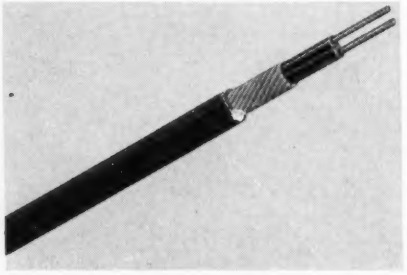
The other day I chalked up my 5th year with Stromberg-Carlson—but one of the orders I filled that day made me feel pretty much a youngster in the business: I sent out a battery we promise will serve you for 25 years! That started me thinking about other equipment we supply. Here, the guarantee is a quarter century—there, it's for life, **period.** And always, the guarantee is a double one—ours, and the maker's. It made me realize again how much your orders mean to the science of telephony. It's your supply business that helps us continue our research for ever-better, ever-longer-lived telephone equipment. Thanks a lot!

Here's a drop wire that hides its age

Samples of Whitney Blake Teleprene® (neoprene jacketed) drop wires were strung where they would get lots of weather. After nine years, they still looked fresh and undaunted – and tests showed that these wires would give years and years **more** of good service!

The jacket is a tire-tread type neoprene compound which provides excellent resistance to sunlight, abrasion, oils, acid fumes, alkalies and other corrosive chemicals.

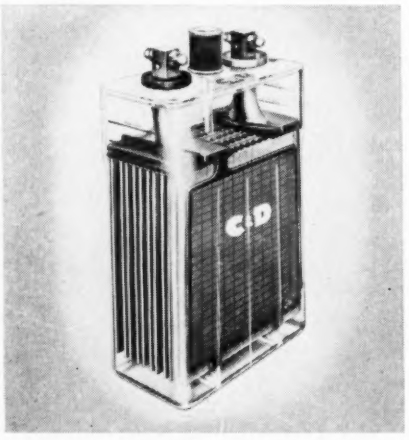
Conductors have Teleplate coating: lead, to resist corrosion, and brass plating over the lead, to provide enduring adherence of the high quality buna rubber insulation to the conductor.



Available in parallel (shown here), twin parallel and twisted pair types.

These two battery types give you decades of good service

Here's a dependable power supply for you with a life expectancy of **25 years!** It's the C & D PlastiCal telephone battery, and when we say it will last 25 years, we're thinking about **full float service.**



This low-cost PlastiCell battery has life expectancy of 14 years. Its PlastiCal counterpart will last you 25 years.

You get this extra-long life because C & D PlastiCal (lead-calcium grids) batteries have an exclusive suspended and supported plate construction.

If a 14-year life expectancy will fill your needs, C & D has an economical battery for that, too. It's the PlastiCell battery, using high-tensile lead alloy grids.

In the picture, you see one of these PlastiCell batteries. It's the CE-11 and has a 300 A.H. capacity. In PlastiCal, specify PCE-300.

Cane-seat chair keeps operators cool, comfortable

Making the operator as comfortable as possible may not strike you as a "maintenance" problem – yet your service is much smoother when the girls are cool and relaxed.

This operator's chair has a cane seat, which is much cooler, cleaner and more comfortable than other types. It retains all the posture advantages for which Sturgis is famed. It is called the Sturgis SC-240.

The posture-curved, well-cushioned backrest is covered in genuine leather.

The exclusive Sturgis "Follow-Flex" feature automatically adjusts to the operator's every movement, supports her restfully all the time, discourages fatigue, keeps her at top efficiency.

Puts up a howl, gets misplaced receivers back on the hook

Here's how to tell a subscriber to replace his receiver on the hook—without wasteful service calls.

Lorain Model B Howler makes itself heard!

This Model B Howler, made by Lorain Products Corporation, keeps

XUM

party lines clear. It produces a distinctive signal tone that demands instant attention. The signal is loud, but safe.

The Lorain Model B Howler is equipped with subscriber-controlled relay for fully automatic operation.

Time and Money Saver

You'll find Cook PLX Cable Terminal the quickest, easiest and most economical to install because there's no stubbing, no splicing, no potting.

Available in 6, 11, 16 and 26 pairs

It's designed for use on plastic cable. You loop the cable through the terminal without cutting wires and terminate the desired pairs for distribution. You can also use the terminal for junctioning and terminating cable.

Grommets are furnished to seal the cable entrance. When ordering, specify cable sizes to get the correct grommets.

Heavy galvanized steel frame, deep drawn chamber, welded zinc cover and the famous XB Bakelite face plate with Everdur studs are some of the major features of the Cook Electric Company's PLX Cable Terminal. It can be furnished with or without protection.

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$2,287,000 to its income by raising the charge for paystation local calls to 10 cents. The company had asked to increase rates a total of $18,250,000 annually.

N. Y., Colo. Governors Veto Highway Relocation Bills

Two gubernatorial vetoes — in New York on April 28 and in Colorado on April 22—were cast on measures which would have permitted use of federal funds to reimburse utilities companies for the cost of relocation of facilities when necessitated by a federally aided highway project.

New York's governor, Averell Harriman, in casting his veto, stated:

"If approved, this would result in a serious inroad on behalf of utilities corporations into funds available for public roads.

"When a utility corporation is permitted to install its lines on, over or under a public highway, it does so by grace of the state, and its occupancy is subject to the paramount right of the public in the use of the highway. It acquires no vested interest superior to that of the public, or in the maintenance of the highway in its present condition.

"If, in the discretion of the officers charged with such duties, it becomes necessary to do any work within the state's right of way which is in the interest of the public respecting the use thereof, the company must move over and make way, at its own expense. These companies never paid the state for the use of the roads, and acquired no property rights therein.

"The objections to this measure are far too numerous and have been aired too widely to require review at this time. Suffice it to say that basic fiscal principles would be violated by relieving public utility corporations of costs which they should bear.

"The state of New York took a firm position in 1956 against proposed federal legislation that would achieve the same ends sought by this measure. My position has not changed. The bill is in opposition to the best interests of all of the people of the state; it is economically unsound and it would severely affect the entire highway program."

Hamilton A. Cunningham, executive secretary of the New York State Telephone Association, said the governor's veto message points up the necessity for starting on a long-range program to educate association members and—even more important — the telephone subscribers throughout the state on the justness and soundness of the association's position in this matter.

"We must gear ourselves to enlist the aid of the subscriber generally in support of our position," he said. "It seems to us that if the subscriber knew he was paying the Federal Road Bill twice, very little difficulty would be experienced in enlisting him in our forces."

Governor McNichols of Colorado, in vetoing his state's highway relocation bill, said:

"Colorado is on the verge of its greatest highway expansion program. The costs involved in paying for relocation of utility lines, poles, pipes, etc., would so severely curb our matching program that I cannot in good conscience allow this bill to become law . . . I have done much research . . . and I am thoroughly convinced I am acting in the public interest."

McNichols declared the fact that many highway users are also utility users "does not detract from the self-evident arguments that each governmental service should insofar as possible be self-sustaining."

Utilities which are quasi-public in character, the governor further declared, must add their costs of doing business to their rate structures and not assess part of their operation costs to the state highway department.

•

In the meantime, progress was reported on highway relocation bills in two other states.

New Mexico State Highway Engineer L. D. Wilson on April 26 announced he would seek a state attorney general's opinion on the constitutionality of a new state law requiring the state highway department to reimburse public utilities for the cost of moving their facilities when necessitated by highway construction projects.

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Maine's Senate passed on April 24 an order asking the state supreme judicial court for an advisory opinion as to the constitutionality of a legislative bill which would require the state to reimburse public utilities for the cost of moving their facilities when necessitated by interstate highway construction projects.

Ark. Commission OKs Sale, Dismisses Two Others

The Arkansas Public Service Commission on April 22 approved the sale of the Wickes, Vandervoort, Cove and Gilham exchanges by C. L. Smith to William E. McLemore, McCurtain, Okla.

The commission on April 18 dismissed without prejudice the following applications: Thomas Brothers, doing business as the Standard Telephone Co., to sell the Cotter and Yellville exchanges to Northern Arkansas Telephone Co. Also O. J. Hobson of Madi-

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THE THRILL THAT ONLY GOOD TOOLS CAN GIVE

It's a pleasure to use good tools —pliers that grip tight . . . that cut through tough wire easily . . . that reach confined spaces.

Linemen and electricians know that they can rely on their Kleins—side cutters, long nose, oblique cutters—famous for quality for a century.

There is a Klein Plier exactly suited to every electrical need—carried in stock by better electrical suppliers everywhere.

100 years of service to linemen, electricians and industry is back of this new Pocket Tool Guide No. 100. A copy will be sent to you on request, without obligation.

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son County Telephone Co. to sell his Huntsville exchange, along with other properties, to J. Curtis and Roma Jean Shrum.

The city of Huntsville filed a petition asking that the application be denied on the ground that such a sale would not be to the best interests of the city and its telephone service.

•

Also, on April 30, the commission was to have heard the application of Mountain Home Telephone Co., Inc. for authority to issue and sell 550 shares of $20 par common stock and 150 shares of 6 per cent cumulative preferred stock, $100 par.

Southern Bell Asks Raise Under Bond in Tennessee

Southern Bell Telephone & Telegraph Co. petitioned the Tennessee Supreme Court on April 24 to order a 6.8-million-dollar rate increase into effect under bond (TELEPHONY, Mar. 23, p. 53).

Tennessee Public Service Commissioner C. L. Pentecost said the commission would resist the petition with support from the cities of Memphis, Nashville, Knoxville and Chattanooga.

The company asked the court to order the higher rates in force, with reimbursements to be made to subscribers in case the court ruled against them later.

The 6.8-million-dollar increase was approved by Chancellor Thomas W. Steele on Feb. 26 but the new rates were held up pending an appeal by the commission.

The Tennessee Supreme Court has set June 6 to hear the case on its merits.

The rate proposal stems from a request by the company filed on Nov. 10, 1954, requesting a 9.8-million-dollar increase.

After lengthy hearings, the commission granted a 3-million-dollar increase on Feb. 15, 1956.

The company appealed the case to Chancery Court and on Feb. 26, Chancellor Steele agreed to the additional 6.8 million dollars. He refused, however, to order the higher rates in effect under bond.

Need for Educated Talent Seen in Expanding World

Writing in the January issue of *Harper's Magazine*, John W. Gardner, president of the Carnegie Corp., tells of "The Great Hunt For Educated Talent." It is a story of a shortage—and of an enormously important problem for which there is no easy solution.

Nowadays college graduates with technical degrees command beginning salaries that would have seemed inconceivable a comparatively short time ago. Mr. Gardner quotes an industrial executive as saying, "We don't screen them, they screen us." Last year one big company actually had recruiting teams on 200 campuses. The government, as well as business and industry, is in active competition for educated talent of many kinds.

"But present demand for talent," writes Mr. Gardner, "is not, as some people insist, a mere by-product of prosperity. It is the nature of our society that has churned up the wave of demand—the rapid rate of our technical innovation and the social complexities that have come in its wake."

He recalls that as recently as 50

SAFETY THUMB TACKS

By John A. Bracken

Bits of safety reasoning, either pointed or flat, depending upon the way you look at them:

"Accidents can be avoided—increase SAFETY vigilance."

•

"SAFETY—means taking every precaution to prevent accidents."

•

"Accidents just don't happen—there is always a reason."

•

"Acquire the right mental attitude—before a job is started, make the working conditions SAFE."

•

"Neglecting SAFETY, is like gambling—one *may* win, but the chances are you will lose."

years ago the only fields that required advanced training were medicine, law, the ministry and education. All has changed since then. Between 1870 and 1950 the number of professional workers grew three and a half times faster than the population. The most spectacular change has been in the demand for scientists and engineers. In 1870, they represented only 3 per cent of all professional men; now the figure is 20 per cent.

Obviously enough, our educational system has grown vastly—even though demand outruns supply. Higher education is now available in more than 1,800 institutions. At the same time, only a relative few of the institutions (148 in 1950) offer programs leading to Ph.D. degrees. And of those, Mr. Gardner says, ". . . a surprisingly small fraction . . . carries the major burden of training our professional, scholarly, scientific and technical leaders."

As we all know, there has been a tremendous emphasis on specialization. That was inevitable, in a technological age. But this, as Mr. Gardner observes, poses a dilemma—". . . a world of ever-ramifying specialties soon cries out for generalists." Consequently, ". . . the most forward-looking of our colleges and universities are making active efforts to ensure that every specialist will build his specialty on a base of general education. . . . What the future is going to demand is specialists who are capable of functioning as generalists."

Mr. Gardner brings out one fact that will surprise many of us. Our total expenditures for higher education now amount to only eight-tenths of one per cent of our gross national product—the lowest figure since 1951, and far less, for example, than is spent on tobacco products or alcoholic beverages.

Finally, he deals at some length with the problems — economic and other — that must be solved if sufficient educated talent is to be produced. He emphasizes the need to keep standards high—". . . *excellence* is the proper concern of colleges and universities."

His last sentence reads: "Whether we shall have a steady flow into our leadership ranks of wise, liberally educated men and women with the creativity and the sense of values which the future demands—or whether we shall have a paralyzing flow of skilled opportunists, time servers, and educated fools—depends wholly upon the sense of values which guides our efforts."

Calamitous Trend

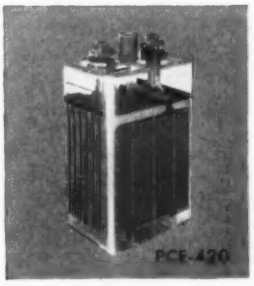
During 1956, there were 2,200 more highway traffic fatalities than in the previous year.

Telephone batteries engineered for—

25

years of service

C & D PlastiCal®



If you want extra-long life from batteries in telephone service—be sure to specify C & D PlastiCal® batteries.

Here is the original lead-calcium telephone battery that provides at least 40% longer life than conventional telephone batteries. With C & D PlastiCal telephone batteries you get:

- **Reduced maintenance**—Electrolyte level can be checked at a glance; cells require 1/5 as much water as conventional batteries.
- **Lower in-place cost**—Rugged one-piece plastic case is 20% lighter than glass; reduces shipping and breakage costs.
- **Increased safety**—C & D's patented Saftee-Vent eliminates the chance of accidental explosions; serves as funnel for filling.

These plus many other benefits mean that in the telephone field, C & D is—

Your better battery buy!

Literature available

Write for complete description and specifications in C & D PlastiCal Bulletin T-528.

C&D BATTERIES, INC.

of Conshohocken, Pa.

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SALES AND SERVICE OFFICES IN PRINCIPAL CITIES FROM COAST TO COAST

COTTON
Serviceable for all around uses. Standard everywhere.
NYLON
Smooth texture, easy to handle. Preferred for switchboard use.
NEOPRENE
Very popular because easy to keep clean. Moisture and grease proof.

Runzel

CORDS

the WORLD'S FINEST

...for every purpose!
...for every instrument!

Take your choice—Neoprene, Nylon or Cotton. They're all high quality cords made in accordance with Runzel high standard of quality. We carry large stocks of cords to meet every need. Our geographical location means Quick Service.

RUNZEL CORD & WIRE CO.

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THE SHERATON HOTEL STORY

Continued from page 21

announcement cheerily says, "Good morning. It is now seven a.m. The breakfast special in our Cafe Plaza is freshly squeezed Florida orange juice, crisp grilled bacon, French toast and coffee for 95 cents." "Well, I wasn't too keen about a mechanical waker-upper, but it's certainly right on time, and that breakfast suggestion sounds good!" thinks Mr. Armitage.

Sure enough, when he is dressed and shaved, he heads for the Cafe Plaza, stopping at the desk, first, to tell the clerk he'll be there if his friend Mr. Trainor should call. He's half-way through his French toast, when his waiter appears with a telephone, telling him there's a call waiting from Mr. Trainor. Without moving from his table he talks to Mr. Trainor who says he'll be in his office at 9:30. "Why this new system is wonderful," Mr. A. tells the waiter after he completes his call.

And so Mr. Armitage's stay at the Sheraton passes, and it's check-out time. He goes to the hotel desk. Checking out usually took a little time while the clerk tallied his telephone calls and other charges. This time it's different. The clerk takes a look at some little metal cans on the wall—he calls them message registers—and writes down the amount of the local calls. The long distance call charges have already been billed to his account. He's checked out in a fraction of the time it took him on his first visit.

Naturally, Mr. John Armitage returns to his home and business with even better memories of his stay in Boston. He'll probably tell his friends about the novel message-waiting lamp or his green hotel telephone, about the mechanical morning call and the answering device which took his pressing request.

Although the Sheraton Plaza was the first hotel to have the complete hotel package, undoubtedly it will not be the last. When the study was begun, all Sheraton Hotel managers and Bell System associated company representatives filled out questionnaires prepared by Mr. Harriman and Arthur Danforth, New England T&T's General Sales Staff Supervisor. The questionnaires probed into all phases of telephone practices and usages in the hotels as well as information about the flow of telephone traffic and telephone equipment in use. The sifting down and analyzing of these questionnaires resulted in the hotel package, part of which we described earlier. This hotel study is one of a series of industry studies which the American Telephone & Telegraph Co. and associated Bell companies are co-sponsoring so that the Bell System will be better able to anticipate and supply the communications needs of their larger customers.

The basic part of the hotel package is the installation of a dial PBX system which the analysis showed would pay for itself in a comparatively short time. And there were facts to prove it —a cost analysis of the Sheraton Cadillac Hotel in Detroit, conducted by Michigan Bell Telephone Co., conclusively proved that dial service would be cheaper and better. Two new developments, the automatic morning call system and the message waiting lamp which intrigued Mr. Armitage so much, are also features of the switchboard system. The other parts of the package, some of which we have met in Mr. Armitage's stay at the Plaza are listed below:

(1) The use of cards such as bureau cards giving information about various telephone services and their rates.

(2) Colored telephones installed in each room as a means of increasing telephone usage as well as improving the decor of the room. This was tested at the Sheraton Kimball Hotel in Springfield, Mass., for a period of 30 days when three groups of similar rooms were used in the sampling. Two of the groups had black sets in the rooms, the third grouping was equipped with colored telephones. The colored telephone group showed a calling rate 16.7 per cent higher than the combined calling rate for the black telephone groups.

(3) Portable telephones installed in locations such as restaurants and cocktail lounges.

(4) Position clocks installed on the switchboard to make for more efficient timing of local calls—most hotel PBX operators relied on wall clocks for timing calls.

(5) The installation of private line teletypewriter service between the hotel's accounting office and the telephone company toll office. Such installations would eliminate the necessity of a verbal quotation of time and charges on toll calls to the hotel switchboard operator by the telephone company operator, thereby greatly reducing the operator time normally spent in ticketing calls, and would also permit a single posting to the guest's bill. Much revenue in the form of late, lost and illegible tickets could be obtained if this service were introduced.

(6) Up-to-date guest lists maintained at the switchboard would make for more efficient handling of incoming and guest-to-guest calls.

(7) Automatic answering and recording devices would be used effectively and efficiently not only for all hotel services but also in hotel concessions.

(8) Additional public telephones

placed in heavily used hotel locations could prove to be as big revenue producers as those already in use in the hotels.

(9) The assistance of the local telephone office could be obtained in determining the best telephone operating practices for that hotel.

(10) Telephone company personnel could assist them in establishing an employee training program to give the best and most courteous telephone service.

And that is the Sheraton Story, or rather, a forecast of modern hotel telephone service for the nation in service this year, not five years from today!

HIGH SPEED COLOR CODING

Continued from page 24

capstan of the wire extruder *(Fig. 6)*. This enabled us to maintain correct distances between the dots and dashes along the wire.

The machine, which is mounted on casters, could be dismounted or installed and aligned by rolling it in place and fastening it with tapered pins to adjustable brackets on the floor.

An auxiliary motor *(Fig. 5)* under the top level of the machine enabled us to clean and flush out residual ink in the system, using methyl ethyl ketone as a cleaning agent.

The coding rims can be drilled to produce one dot, two dots or more and any sized dashes desired.

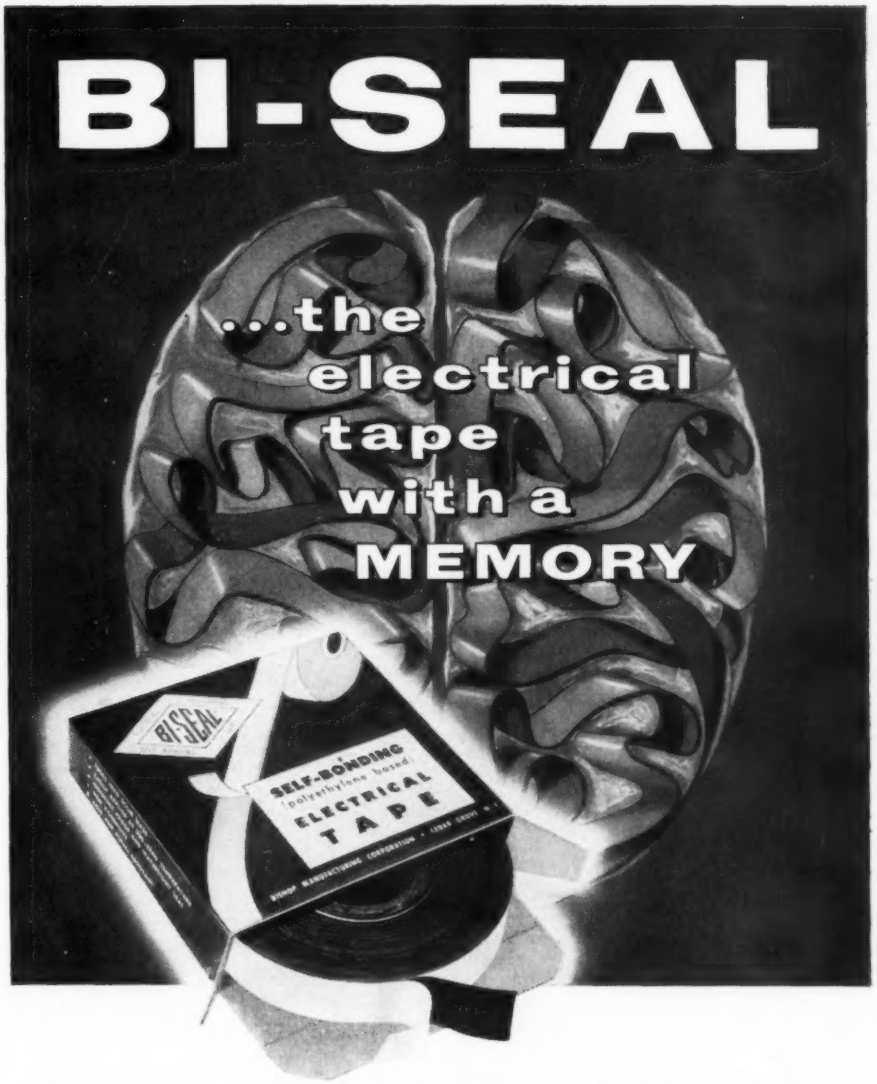
To change from one code to another, we change rims. If only one machine is available, the inks are rotated from white to yellow to red to black as required.

When the sequence is terminated, for example, to go from black to white or yellow or red, and red to white or yellow, several flushings with cleaner are necessary, and then we add ½ gallon of the lighter colored white ink and circulate it in the system for a few minutes.

The contaminated ink is pumped out and discarded, the system completely drained, and the desired color added. For optimum production it is desirable to have a standby machine if production schedules warrant it.

Slight defects in the construction of the hood and insufficient packing in the pump and disk shaft joints, result in leaks. However, due to the high volatility of the ink, most small leaks outside the hood soon seal themselves during production.

Cleanliness and thoroughness in maintenance are of prime importance in the operation of the machine. Vigorous removal of the vapors of methyl ethyl ketone and tetrahydrofuran from the inks is imperative.



Bishop's Bi-Seal, a self-bonding (polyethylene based) electrical tape, possesses the unique characteristic peculiar to many plastic products . . . a retentive memory. When Bi-Seal is stretched during a normal splicing operation it "remembers" its original shape and fuses into a tight, homogeneous mass in an attempt to return to its normal form.

Within seconds a Bi-Seal splice has become a long-lasting, water tight seal, virtually non-absorbent and offering high dielectric strength and unusual resistance to moisture, corrosive atmospheres and chemicals.

Bi-Seal performs efficiently on any insulation and is unexcelled for cold weather applications, as low as —55°C. . . . never brittle, never shatters, conforms perfectly to the most complex shape or contour . . . lasts as long, or longer than the original insulation.

Highly recommended for communication and power distribution wire and cable splicing, moisture-proofing bi-metal connections, sealing corrosion-resistant conduit couplings, and insulating high frequency electronic circuits. Accepted by REA for insulating plastic telephone cable.

Write today for your free copy of Bishop's new tape catalog.

Bishop Bi-Seal is available from your distributor.

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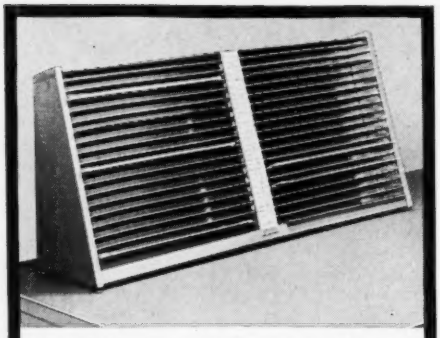
ELECTRICAL INSULATING BI-SEAL SELF BONDING TAPE

BISHOP

MANUFACTURING CORPORATION

12 Canfield Rd., Cedar Grove, New Jersey



Trouble Recorder Card Rack

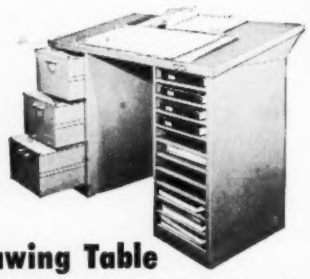
For fast orderly sorting of Trouble-Recorder cards, has 38 card slots in two banks with index strip between. Base is 38" by 8". Height 15". No. D30225-1.

Telephone Office Equipment

to lighten your work and improve efficiency

Work Bench

For repair, assembly, test and paper work. Top drawer divided into 24 compartments for parts and tools. Large file drawers are for circuit drawings. 54" x 25" top covered with masonite. Height 36". Drawers may be inserted from back to reverse position of kneehole. No. D29978-3.



Drawing Table

For circuit drawing in crossbar offices, provides central location for reference material. Masonite top is 30" x 60". Height 36" at front, 42" at rear. Three large file drawers at left for drawings. Eleven shelves at right are 2½" high, 14" wide, 18" deep for sketches, sequence charts, book type SD sheets, trunk serials, etc. No. D30326-1.

Color of all units: Baked-on gray enamel unless otherwise specified.

TWIN POST
Neubauer
MANUFACTURING CO.
517 LOWRY AVENUE N.E.
MINNEAPOLIS 18, MINN.

Exhaust ducts must be provided for the top and bottom levels of the machine and tied in to the control console so no electrical equipment can be activated until the exhaust fan is turned on. The machine is constructed so that it is possible to perform the following operations without interruption of production.

(1) Introduce fresh ink and thinner into the reservoir.
(2) Tighten leaky joints.
(3) Bring the dots and dashes into correct register.
(4) Align the hood in a vertical and horizontal position.

To change ink or rinse, the machine is rolled into a special utility room provided with the necessary equipment for the maximum safety and health of the operators.

Conclusion

A machine has been developed for the high-speed color-coding of plastic-insulated wire. Many codes can be produced since the rims can be drilled to yield any desired combination of dots and dashes at specified intervals along the wire.

This device in conjunction with the great variety of colors of plastics and inks available makes it possible to produce "All-Plastic" cables with hundreds of conductors that can be identified and connected to their corresponding terminals.

A patent application has been filed covering the subject matter of this paper.

Obituaries

JOSEPH L. KACZMAREK, 40, manager of the Benton Cooperative Telephone Co., Rice, Minn., died on April 29 of a heart attack.

In addition to being manager of the three-exchange Benton co-op, Mr. Kaczmarek was a candidate for Congress in the last election, having run against incumbent Congressman Fred Marshall.

He is survived by his widow and four children.

•

W. R. OLINGER, 33, a native of Garland, Tex., and valley district manager for the General Telephone Co. of the Southwest, died of asphyxiation on Apr. 23 in his home in Weslaco.

Mr. Olinger, who had lived in Weslaco for several years, was found on the floor of a back bedroom in his home. The door had been barricaded against the flames which enveloped the entire house.

Mr. Olinger, after graduating from Texas Tech, went to work for General Telephone.

Survivors, all of Garland, include his parents, Mr. and Mrs. Ray Olinger; two sisters, Mrs. A. R. Davis Jr. and Mrs. G. W. Range, and his grandmother, Mrs. W. V. Olinger.

D. C. Power Receives ASTE Public Service Award

Donald C. Power, president of General Telephone Corp. on May 6 received the distinguished public service award given annually by the American Society of Tool Engineers at their regular meeting sponsored by the New

D. C. POWER

York chapter. The award was made by Hartley W. Barclay, past chairman of the Greater New York chapter and publisher of *Tide* magazine.

In making the award, Mr. Barclay said of Mr. Power's activities: "Through this joining of science, education, public service, finance and communications, such an important broadening of public gains has been made that it is an honor and a privilege for this citation to be awarded to Donald C. Power, whose deep insight into America's needs, capabilities and opportunities made this achievement possible."

Following the award, Mr. Power addressed the society on "Merchandising—Key to the Future," in which he emphasized the importance with which General Telephone views the subject of market research and planning as a basis for developing future growth.

Neb. Company Incorporates

Vinson A. and Margaret K. Bittinger have filed articles of incorporation with the Nebraska secretary of state for their presently operating Clarks Telephone Co., it was reported on April 30. Capitalization authorized was $200,000.

XUM

An ounce of scientific prevention

Like the dramatic progress in medical science, modern tree care bears little resemblance to the crude methods of only fifty years ago. No longer is it enough to repair damage—to cut away a limb that has died. Today, as always, we seek the answer "Why"—the cause of the damage or disease and apply every modern technique and curative treatment. Only in this way can America's rich heritage of shade trees be preserved.

Scientific tree care is available to you through your local Bartlett representative, a highly skilled technician backed by the knowledge and experience of the Bartlett Tree Research Laboratories. If you have trees which you value, it will pay you to consult him before you need him. No one knows better than a Bartlett client, that an ounce of scientific prevention is worth many many pounds of cure.

REMEMBER

Our long experience in working with both utilities and the public is your assurance of dependable work and good customer relations.

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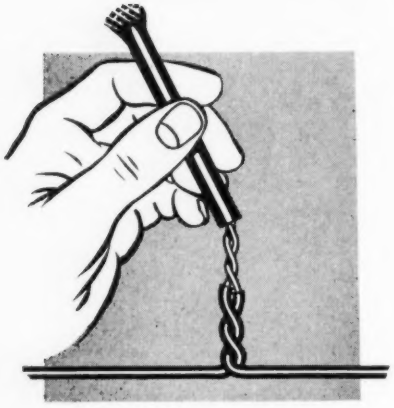
Home Office, Research Laboratories and Experimental Grounds, Bartlett School of Tree Surgery, Stamford, Conn. Local Offices from Maine to the Carolinas, and West to Indiana. See your Local Telephone Directory for Local Address.

Superior's "Super-Splice"® is safe and sure!



"Super-Splice" makes splices waterproof . . . from inside out!

Sealed at one end, this plastic splice sleeve is filled with an insulating and waterproofing compound.*

Economical "Super-Splice," a Superior exclusive, makes the splice permanently as good as the cable . . . yet it can be re-entered easily. The compound never hardens or oozes out no matter what the temperature.

Prevent leakage currents and breakdowns in the presence of moisture...good for 25,000 v.d.c. Order "Super-Splice" NOW!

*A Dow-Corning silicone compound.

An REA Standard.

"Super-Splice" is available for use with straight, butt or bridge splices.

For further information on economical "SUPER-SPLICE", write

SUPERIOR CABLE

SUPERIOR CABLE CORPORATION
Hickory, North Carolina

Bell Labs Announces New Faster Data Transmission

Bell Telephone Laboratories announced a new experimental device on April 18 which will enable business machines to "talk" directly with one another at a speed of about 1,000 words a minute.

Printed material could thus be sent over lines like those used for telephone purposes, but at a speed 16 times that of conventional teletypewriter systems.

This new device, tentatively called a data subset, is designed to give accurate transmission among wide varieties of information processing machines, such as electronic computers, electric typewriters, or adding machines. Transmission of the data is automatic, and voice communication can precede or follow the operation.

Information is placed on magnetic tape by an electronic computer, electric typewriter or other machine.

In contrast to holes punched in paper tape used in many other automatic machines, letters, numbers or symbols are placed on the magnetic tape in the form of magnetized spots. A group of seven such spots identifies the particular character.

Some spots are magnetized in such a way that they represent "zero" and others in a way that represent "one." All information put on the tape is translated into a code using combinations of these two numbers.

The chief advantage of magnetic tape is that its speed is easily adapted to match the speed with which the signals can be sent over telephone wires. It also has the advantage of quiet operation.

After its preparation, the tape is then inserted into the data subset machine. The person on the "sending" end talks by telephone with the person on the "receiving" end to notify him that the message is to be transmitted.

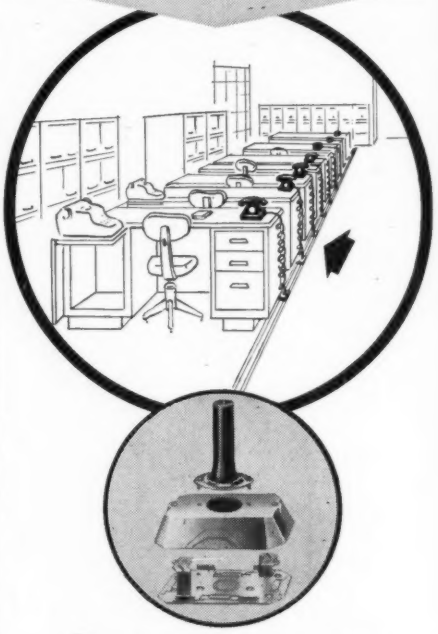
The recipient turns on a receiver mechanism and the sender then starts transmission. An automatic signal indicates when the taped message is completed.

The person on the receiving end removes the tape from the machine and inserts it in the office machine for decoding.

On an electric typewriter, for example, the mechanism could be arranged to type out the message automatically from the magnetic tape. This would be set for the speed of the typewriter and could be at a faster speed than a typist could attain.

To provide essentially error-free transmission, extra error-checking

PANCAKE is the Modern Way to carry communications wiring to the *point of use!*



Pancake is the streamlined, modern method of making individual telephone connections to office desks or communication points in factories. The galvanized steel, *trip-proof* surface raceway can be quickly and economically installed with a *minimum* of interruption to office or factory routines.

Features added to the newly developed 1546T Telephone Outlet Box, *illustrated above,* provide (1) an ingress for 2600 Pancake, and (2) the "split bridge", which extends the versatility of this fitting, provides a more simple means for the installation of the 47B terminal block, and facilitates the use of the fitting for through wiring.

Specify 1500 Pancake for JKT Conductors; 2600 for telephone cable.

For further information write Dept. T-4

THE WIREMOLD COMPANY
HARTFORD 10, CONN.

equipment can be added. In the event of a disturbance in transmission, the receiving equipment will then reject the portion of the transmission affected and automatically cause it to be retransmitted.

The present laboratory models are about the size of office typewriters. If they were engineered for maximum compactness, they could be made considerably smaller.

The small and convenient size is made possible by the use of transistors, semiconductor diodes and ferroelectric crystals. No vacuum tubes are used.

The functions of memory, logic, oscillation, modulation, and amplification, which would ordinarily be performed by vacuum tubes and their associated components, are here performed by the products of solid-state electronics.

By the use of transistors, the machine can be one-twentieth the size required if vacuum tubes are used. The use of transistors reduces power requirements to about 5 per cent of that necessary to operate a like machine built with vacuum tubes.

Because of its great speed, the equipment uses the information-handling capacity of telephone circuits with high efficiency. In many instances, there is no urgency requiring that a message be sent at 1000 instead of 100 words per minute. But, for a given amount of information, the machine reduces drastically the amount of time the telephone line would need to be used.

Equipment could be set up to function in off-peak telephone traffic hours. For example, the subset could transmit over one line from 5 p.m. until 9 a.m. the following day, the equivalent output of some 30 expert typists typing at full speed for 8 hours.

Typewriter preparation of the magnetic tape is only one of many methods which could be employed. More complex business machines would perhaps find even greater use for this type of transmission system.

For instance, a bank might employ an electronic computer to compile account numbers, deposits, withdrawals and balances. By placing the data on magnetic tape, the bank could quickly send the information to one or several branch locations simultaneously.

The accuracy and speed of large-scale accounting and bookkeeping procedures have been greatly heightened in recent years by the growing use of modern computing machines. Business, government, and private organizations use them to figure payrolls, conduct inventories, bill customers, or to control the manufacture and distribution of goods.

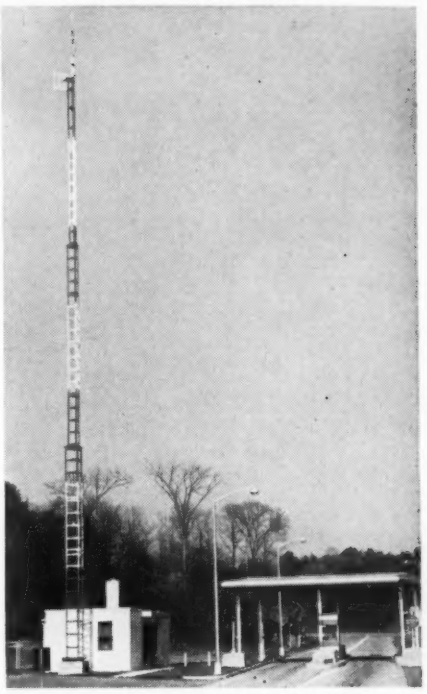
The efficiency of many of these business practices is limited by the relatively slow methods of sending the information from one machine to another. With the data subset this transportation hurdle is overcome and a transmission system will be available to meet the rapid pace set by electronic data processing.

Most present-day business machines could be modified to produce the required magnetic tape. Tests and careful laboratory studies must continue, Bell Laboratories reported, before this system can be made available for commercial use.

A Niche for Everyone

"There's place and means for every man alive."—SHAKESPEARE.

The Lafourche Telephone Co. availed itself of an important advertising medium recently when it erected this billboard near Larose, La., to merchandise its services and its name.



Communication's Most Versatile Tower . . . the STAINLESS "SC" (Self-Supporting)

- Clean, economical, dependable structure
- Serves many purposes
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Quick, expeditious handling of communications is assured year-'round by this clean, economical and dependable self-supporting structure.

The SC Tower is sturdy, and being free of guy cables is particularly adaptable where land space is at a premium.

Available as straight uniform cross-section for short heights, graduated uniform cross-sections for taller use.

Call or write for details.

Stainless, inc.
NORTH WALES • PENNSYLVANIA

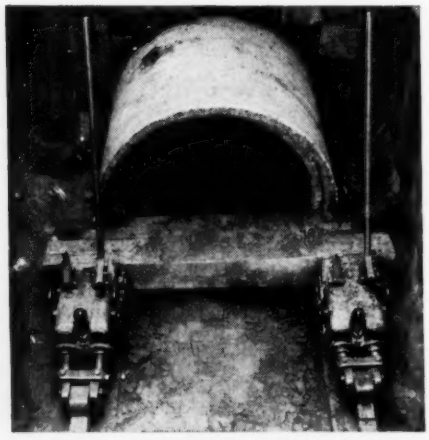
FAST, EASY WAY

TO INSTALL PIPE...

AT LOWER COST

PUSH PIPE UNDERGROUND WITH A GREENLEE HYDRAULIC PUSHER

Here's the simple, cost-cutting way to install underground pipe. Speed your jobs with a GREENLEE Pusher. One-man-operated, portable, simple to operate. No tearing up of pavement . . . eliminates extensive ditching, tunneling, backfilling, tamping, repaving. Cuts job time to a fraction. GREENLEE Hydraulic Pipe Pusher often pays for itself on first job. Two sizes — model shown above for pushing 3/4" to 4" pipe. Larger unit, below, for pipe over 4", concrete sewer pipe and large drainage ducts. Power pump (as shown above) also available for extra ease and speed of operation.



GREENLEE

Write today for descriptive literature. Greenlee Tool Co., 2065 Columbia Avenue, Rockford, Illinois, U.S.A.

Graybar Announces Four Managerial Appointments

E. E. Leavy, Mississippi Valley district manager, Graybar Electric Co., Inc., announces the appointment of J. L. Oglesby as manager, and W. H. Chrisp as operating manager, at Little Rock, Ark. effective May 1.

J. P. Lawton, Graybar's Northwestern district manager, announces the appointment of J. H. Bailor as manager at Eugene, Ore. effective May 16.

On June 1, H. O. Colburn, former Eugene manager, transfers to Spokane in the same capacity.

Morse Leaves Hospital

George E. Morse, popular secretary of the Reliable Electric Co., who has been confined recently to St. Luke's Hospital in Chicago, following an operation, is recuperating at his home at 359 Longcommon, Riverside, Ill.

Need for Economic Strength

"Strength does not come just in the military. The strength of America is just as much economic as it is military. There is no way that this country can be defeated quicker, no way that we could lose our way of life quicker, than by so conducting ourselves in one way that we ruin ourselves in another. It is the economic strength, the industrial power of America, that is the great power in this world. It is our tremendous economic power that is so far ahead of any other country in the world."—GEORGE HUMPHREY, *Secretary of the Treasury.*

Private vs. Government Ownership

By C. J. REID

In the United States the telephone industry as a regulated public utility is virtually 100 per cent privately owned and operated. No other public utility can make that claim.

A large portion of the electric industry is publicly owned. Substantial numbers of municipal gas plants and a growing amount of municipally-owned transit systems are publicly owned.

In other countries, telephone companies and other utilities have mostly been socialized. Foreign governments often have taken over telephone businesses even where they were originally established as private companies.

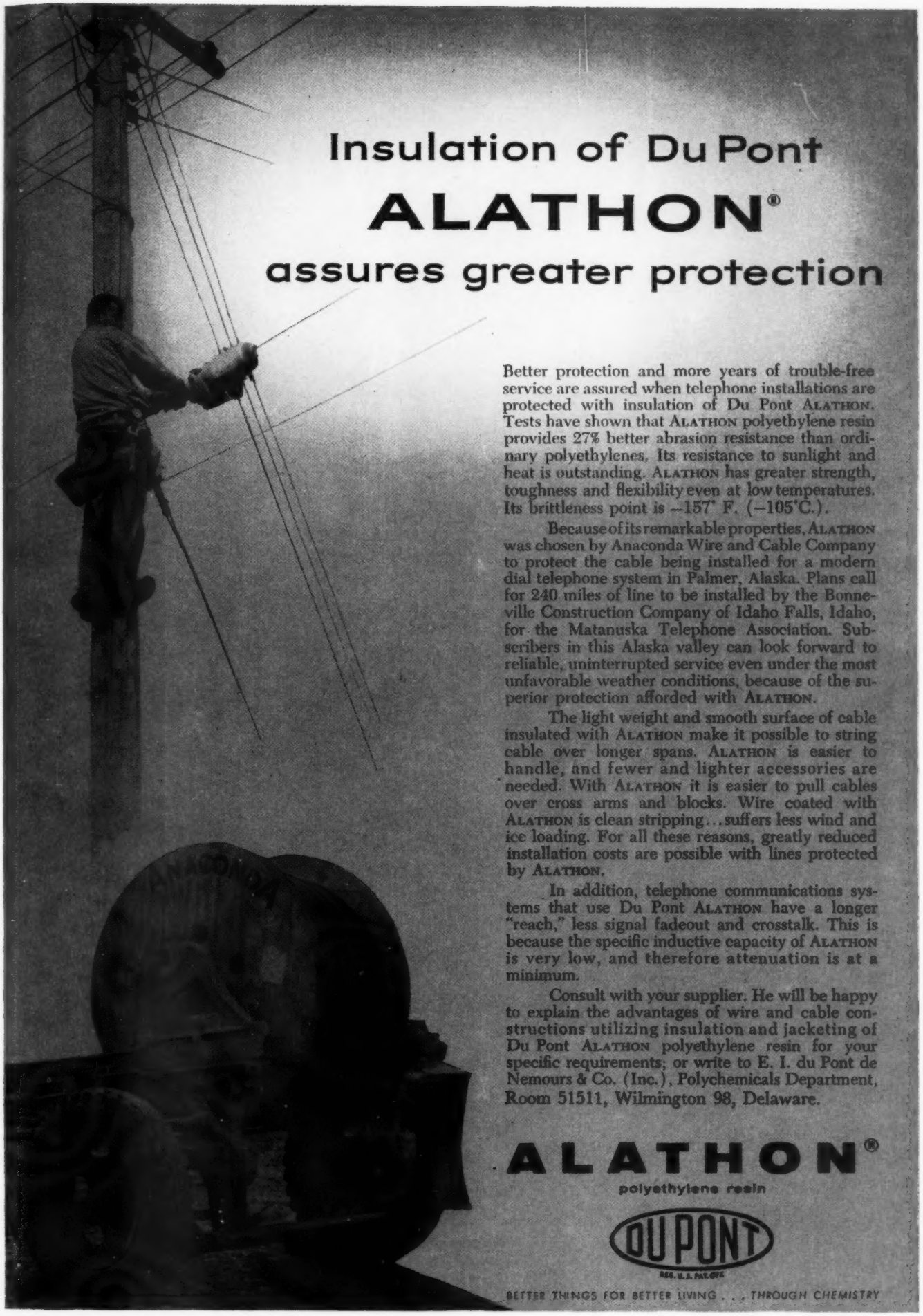
The performance comparison between the privately-owned telephone industry in the United States and that of publicly-owned telephone utilities in foreign countries tells the story far more dramatically and factually. There is one telephone for every three persons in this country, but only one for every 23 people in Europe and one for every 123 people in the rest of the world. Of the 95 million telephones in the world more than half—56 million—are in the United States.

The North American continent (Canada and United States) has the greatest telephone usage in the world. Not only are the American people getting a "bargain" in their privately-owned telephone industry, but they also own the companies which serve them. Private telephone ownership makes for a highly patronized telephone service. Party-line service, which does not exist in most foreign countries, has contributed to the high level of telephone development in the United States. It has also made the telephone a more democratic communication medium. The telephone industry in the United States is a success.

In 1952, the Japanese government in order to promote the growth of domestic telephone service, changed to a "privately operated" type of corporate structure. However, the corporation, Nippon Telephone & Telegraph Public Corp., is owned 100 per cent by the government. Some interesting points: the corporation is exempt from taxation; the employes and their trade union, Zen Dentsu, are prohibited by law from any act of strike or sabotage which would disturb the normal operation of the business. The average waiting time for a "special urgent basic" distress call from Tokyo to Hiroshima was 32 minutes.

In Italy, the Ministry of Post Offices—a government agency—provides telephone lines between the country's largest cities. Local service in the cities is provided by private companies. In many instances, both facilities may be in the same room and operated by the same people.

The telephone system in France, which is completely owned by the government, has 70,000 held orders for service.



Insulation of Du Pont ALATHON® assures greater protection

Better protection and more years of trouble-free service are assured when telephone installations are protected with insulation of Du Pont ALATHON. Tests have shown that ALATHON polyethylene resin provides 27% better abrasion resistance than ordinary polyethylenes. Its resistance to sunlight and heat is outstanding. ALATHON has greater strength, toughness and flexibility even at low temperatures. Its brittleness point is —157° F. (—105°C.).

Because of its remarkable properties, ALATHON was chosen by Anaconda Wire and Cable Company to protect the cable being installed for a modern dial telephone system in Palmer, Alaska. Plans call for 240 miles of line to be installed by the Bonneville Construction Company of Idaho Falls, Idaho, for the Matanuska Telephone Association. Subscribers in this Alaska valley can look forward to reliable, uninterrupted service even under the most unfavorable weather conditions, because of the superior protection afforded with ALATHON.

The light weight and smooth surface of cable insulated with ALATHON make it possible to string cable over longer spans. ALATHON is easier to handle, and fewer and lighter accessories are needed. With ALATHON it is easier to pull cables over cross arms and blocks. Wire coated with ALATHON is clean stripping...suffers less wind and ice loading. For all these reasons, greatly reduced installation costs are possible with lines protected by ALATHON.

In addition, telephone communications systems that use Du Pont ALATHON have a longer "reach," less signal fadeout and crosstalk. This is because the specific inductive capacity of ALATHON is very low, and therefore attenuation is at a minimum.

Consult with your supplier. He will be happy to explain the advantages of wire and cable constructions utilizing insulation and jacketing of Du Pont ALATHON polyethylene resin for your specific requirements; or write to E. I. du Pont de Nemours & Co. (Inc.), Polychemicals Department, Room 51511, Wilmington 98, Delaware.

ALATHON®

polyethylene resin

DU PONT

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FOR OVER 30 YEARS
CHOICE OF EXPERIENCE
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CATALOG NO. 156

W. M. BASHLIN CO.
GROVE CITY, PA.

Cushing Joins Lenkurt's Product Planning Division

Thurb D. Cushing, former radio project engineer with the North-West Telephone Co., Vancouver, B. C., has joined the product planning division of Lenkurt Electric Co., San Carlos, Cal.

T. D. CUSHING

In his new position as radio communications engineer, he will do research in communications methods and in analysis of new products to serve the industry.

During his eight years with North-West, Mr. Cushing was responsible for major radio engineering projects, including the British Columbia portion of the Trans-Canada TD/2 system.

In a previous affiliation, Mr. Cushing was with Electronic Laboratories of Canada at Vancouver. During the war he was with the Department of National Defense at Ottawa, working on projects in conjunction with the National Research Council. He has been associated with major pioneering work in radio.

Mr. Cushing studied at the University of Vancouver, and is a member of the Institute of Radio Engineers.

BIC Cables Ltd. Develops Teramel Winding Wires

"Teramel" is the name given to a new sythetic-enamelled winding wire which British Insulated Callender's Cables Limited have recently developed to solve problems set by a variety of electrical equipment.

The company reports that the advantages of this winding wire stem from the unique properties of its insulant, which is a polyester-resin-based synthetic enamel.

This covering possesses excellent electrical and mechanical properties and in particular a high thermal stability, giving it a long life at high temperatures—it may be used continuously at temperatures of up to 130 degrees C.

Its thermoplastic flow is negligible

This is what five HF-65 self-supporting Blaw-Knox towers look like before they are erected. Being sorted and tagged in a Pittsburgh marshalling yard after galvanizing, the towers will be erected this spring for the Carolina Telephone & Telegraph Co., Tarboro, N. C. There are 4,858 structural pieces shown here, weighing 170 tons—all structural components for five microwave towers.

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Can Identify
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3 Times Faster
Than 2 Men
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The Murphy
ONE-MAN
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One-Man Cable Tester

SAVE time . . . money . . . manpower with Murphy One-Man Cable Tester. Thousands are already in use by progressive telephone companies all over the world.

MANY NEW PRODUCTS IN DEVELOPMENT STAGE

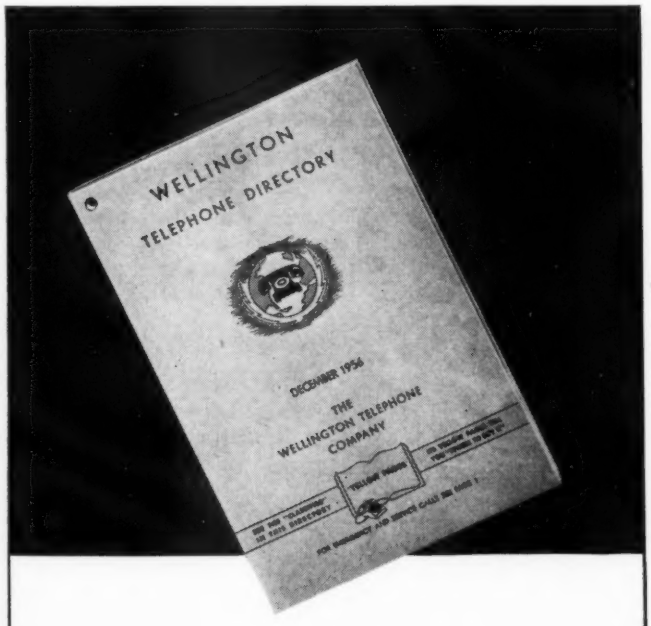
Murphy Engineering Laboratories are working on a wide variety of new products that will help you save vital manhours. If you would like to keep informed about these products send your name and address to our office and we'll put you on our mailing list.

ELECTRONIC RESEARCH DEVELOPMENT MANUFACTURE

MURPHY ENGINEERING LABORATORIES, Inc.

OVerland 2-4000

4419 TULSA • HOUSTON, TEXAS



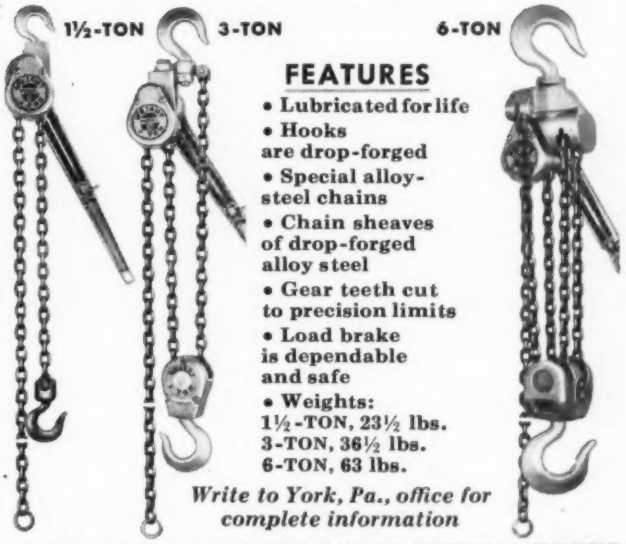
A directory for
The Wellington Telephone Company, Ohio
printed by

R. R. DONNELLEY & SONS COMPANY

350 East Twenty-second Street, Chicago 16

NEW WRIGHT
Type "C" Pull-A-Ways

THREE SIZES—1½, 3 and 6-Tons



FEATURES

- Lubricated for life
- Hooks are drop-forged
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- Chain sheaves of drop-forged alloy steel
- Gear teeth cut to precision limits
- Load brake is dependable and safe
- Weights: 1½-TON, 23½ lbs. 3-TON, 36½ lbs. 6-TON, 63 lbs.

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Light in weight and clean. PENTAchlorophenol treated in our modern plant for protection against decay, moisture and insect damage.

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FINDLAY, OHIO

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Spitzer Bldg. Toledo 4, Ohio

and it has a high resistance to abrasion. It is hard and adheres strongly to the copper, yet is so flexible that the wires can be stretched, twisted and even flattened without damage to the film, according to the company.

Almost any impregnating varnish may be used on the finished windings because Teramel enamel is highly resistant to solvents. However, for optimum life at high temperatures, the use of silicone varnishes is recommended.

These physical characteristics are combined with excellent dielectric properties and a high space factor, the company states. This new type of enamelled wire should, therefore, have a wide range of applications in industry for armatures, coils and windings of all descriptions.

Kellogg Named President of Charles T. Brandt, Inc.

The board of directors of Charles T. Brandt, Inc., of Baltimore, contract manufacturer of steel sheet and metal products, recently announced the election of James H. Kellogg as president of the company. Mr. Kellogg succeeds Charles E. Brandt Sr., who was named chairman of the board.

J. H. KELLOGG

Mr. Kellogg was formerly president of the Kellogg Switchboard & Supply Co. of Chicago, a division of International Telephone & Telegraph Corp. He has been a member of the board of directors of the Armed Forces Communications & Electronics Association, Chicago Chapter; the Illinois State Chamber of Commerce; the E. R. Moore Co., Chicago; the International Standard Electric Corp., New York; and the First National Bank of Hinsdale, Ill.

Mr. Kellogg is a graduate of Standford University and attended Harvard Advanced Management Program.

Blaw-Knox Co. Moves to New Location in Chicago

The Chicago office of Blaw-Knox Co., Pittsburgh, was moved to 36 S. Wabash Ave. as of May 1, it was announced by J. C. McQuide, vice president and district manager.

Formerly located at 122 S. Michigan Ave., four divisions of the parent Pittsburgh company selling to the utility, process, metalworking and construction industries are represented in the sales office.

Schauer Celebrates 50th Anniversary

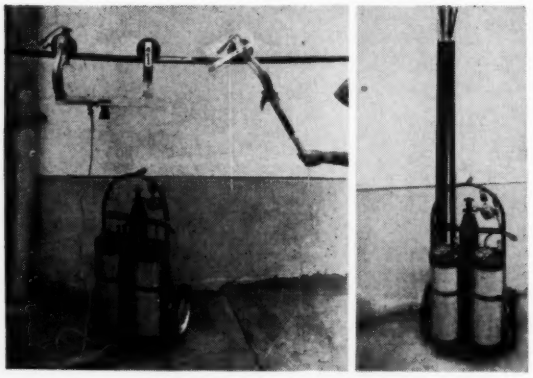
The Schauer Mfg. Corp., Cincinnati, O., in April celebrated the 50th anniversary of the founding of the firm. The Schauer Company manufactures rectifiers, battery chargers and eliminators for telephone and telegraph service.

Originating in a small, one-room shop, the Schauer Corporation today is housed in a modern plant containing 33,000 square feet of office and manufacturing space, located on 10 acres of

S&G

Leak Detection in Minutes!

Leak Detector Applicator



Castings—aluminum for light weight
Safety Brackets—Steel galvanized
Nozzle and Piping—brass
Liquid Line — heavy wall plastic tubing
Liquid Tank—steel galvanized and brass fittings
Wheel—nylon bearings, self-lubricating

MODEL LD-1 & LD-2

Both models use highly successful chemical type leak detector. Applicator's dual nozzle sprays both sides of pressurized cable, giving 100% coverage. Bubble cluster forms around leak within minutes and can be clearly seen from the ground. Air pressure bottle in cart supplies regulated pressure in solution tank at all times, can be adjusted for different heights.

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Executives of the Schauer Mfg. Corp., S. E. Wright, vice president, sales (left) and A. J. Kohn, president, are shown with one of the many types of industrial transformers the Schauer firm designs and manufactures. The Schauer firm is this year celebrating its 50th anniversary.

ground in a wooded, suburban area of Cincinnati.

The manufacturing areas are designed to permit straight-line production and assembly of the products of the company's three manufacturing divisions, which, in addition to those mentioned above, include speed lathes and bench grinders for metalworking, and electrical equipment for the automotive service industry.

New American-British Electronics Firm Announced

Organization of a new company to manufacture transistors and other semi-conductors in England, through the joint efforts of Philco Corp. and The Plessey Co. Limited, was announced on May 2 by Philco Corp. in the United States and The Plessey Co. in London. The announcement was made in the United States by James M. Skinner Jr., president of Philco.

The new firm will be known as Semiconductors Limited.

Philco Corp. and Philco (Overseas) Limited will furnish technical "know-how" and design information, and will supervise the new company's technical programs. Semiconductors Limited will be licensed under Philco semi-conductor patents. It will use automatic equipment designed and manufactured by Philco Corp. for the mass production of transistors, similar to equipment installed in Philco's new transistor plant at Spring City, Pa.

The joint enterprise establishing the

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for longer lasting drops

String your drops with Alphaduct. They'll last longer, serve better and lower your costs on maintenance, repair and replacement.

The tough DuPont neoprene jacket resists abrasion, aging, moisture, sunlight. The Alphaduct insulation sticks to the conductor like glue.

Step-testing during every phase of manufacture insures uniform high quality, and the handy carton packaging protects the wire until you're ready to use it.

So sure are we . . . that you'll not find a longer lasting drop wire . . . that *every* coil is dated . . . so you can see for yourself that it lasts like we say it does.

Alphaduct neoprene jacketed drop wire is available in parallel, twisted pair and dumbbell type construction. Try it.

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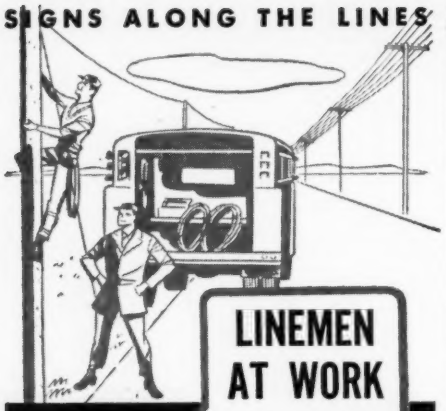
PANKEY SUPPLY COMPANY, CHARLOTTESVILLE, VA.

XUM

SIGNS ALONG THE LINES



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a B-N booth is a busy booth!

British-American company was undertaken following a comprehensive survey of the electronic industry in the United States.

Production will begin early in 1958, and the initial schedule is expected to be increased sharply within a few years.

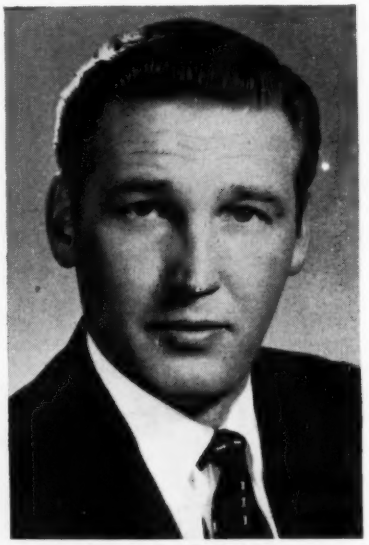
Prospective British users are already being shown Philco transistors in order to accelerate advance engineering and design of electronic equipments to be manufactured by British customers. These transistors were made in Philco's transistor plant at Spring City, Pa.

Semi-conductors, such as transistors and diodes, perform the functions of vacuum tubes. Due to their small size and high reliability, they permit more compact design of electronic equipment such as military electronic devices and computers.

Philco reports the British production will center on the family of transistors developed in Philco research laboratories. These include the high-frequency germanium and silicon transistors for military, industrial and commercial uses produced by Philco's exclusive electro-chemical process for the manufacture of "Surface-Barrier" and microalloy transistors. Semiconductors Limited will produce transistors for all uses, including such items in the consumer field as transistorized radios.

Gould Appoints Two District Managers

The industrial division of Gould-National Batteries Inc., Trenton, N. J., has announced the appointment of Richard J. Schubert as district manager in La Puente, Cal.



R. J. SCHUBERT

From his headquarters at the new Gould service and repair center in La Puente, Schubert will direct Gould's field engineering service and a staff of sales personnel to assist battery users in all phases of application, charging and maintenance.

Mr. Schubert joined Gould as a field engineer at the Trenton, N. J., plant in 1951 and following an assignment at the Depew, N. Y. research facility, he served as a sales engineer with Gould in Denver, Colo. Mr. Schubert is a graduate of the University of Pittsburgh, and a veteran of both the Army and the Navy.

Gould's industrial division also announced the appointment of S. V. Malin as district manager in Detroit, Mich.

From his headquarters at the Gould sales office in Detroit, Mr. Malin will direct Gould's field engineering service and a staff of sales personnel to assist industrial battery users in all phases of application, charging and maintenance.

A Marine Corps veteran, Mr. Malin joined Gould as a field engineer in 1947 and was later assigned to the Detroit territory as a specifications engineer.

Always Be Wary

In 1956, there were 390 persons killed in the U. S., crossing an intersection with signals. Twenty were killed on safety isles.

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C. M. Christiansen Co.—Northern White Cedar Poles, Pentachlorophenol treated. Plant and Yards, Phelps, Wis.

Dierks Forests, Inc. (formerly Dierks Lumber & Coal Co.) Wood Preserving Division, 810 Whittington Ave., Hot Springs, Arkansas. Southern Pine select poles, all sizes and lengths, creosote and penta-pressure treated. Prompt shipment.

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RECONDITIONED LEICH #901 MAGNETO COMPACT WALL OR DESK SETS. 1600 ohm with strong generator for long rural lines. Units like new and only several years old. Can be converted to C.B. or dial operation.

PRICE $22.50 EACH
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Classified advertisements must reach us 8 days before publication date.

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CABLE SPLICERS, Station Installers, Equipment Installers, Linemen. Experienced men needed. Steady work, good pay. Henkels & McCoy, 1211 Kenmore Avenue, Elkhart, Indiana, or 6100 N. 20th St., Philadelphia, Pa.

WANTED: Appraisal Engineer capable of supervising crews with knowledge of automatic central office equipment. Permanent. Will be located in Ohio. Write Box No. 3958, c/o TELEPHONY.

WANTED: Telephone Installers, Cable Splicers, Linemen, Central Office Installers. Yates Construction Company, 1507 South 6th St., Paducah, Kentucky. Telephone 2-4623.

SWITCHMAN WANTED. Experience with various types of dial equipment. With growing company in the South Eastern United States. New equipment and good salary. Write Box No. 3972, c/o TELEPHONY.

PLANT ENGINEERS for large Independent Telephone Company. Some experience necessary. In reply state age, educational and employment history. Address reply to Personnel Supervisor, Rochester Telephone Corporation, 10 Franklin Street, Rochester 4, N. Y.

HELP WANTED

WANTED TRAFFIC SUPERINTENDENT for Independent operating company with over 100,000 telephones —97 per cent dial. Nine toll centers. all with operator toll dialing. Subscriber direct distance dialing equipment to be placed in service at one toll center in July. State age and experience in application to: William C. Henry, president and general manager, Northern Ohio Telephone Co., Bellevue, Ohio.

WANTED

OUTSIDE PLANT ENGINEER

For internationally known export company with headquarters in New York City. Must be familiar with design and construction of modern telecommunications systems. Some foreign travel required. Knowledge of Spanish or other foreign language desirable, but not necessary. Good starting salary, excellent future. Send résumé of education and experience to Box No. 3967, c/o TELEPHONY.

POSITION WANTED

CABLE SPLICER desires permanent location as splicer or cable repairman. Age 27. Write 502 S. State St., Westville, Ill.

ACCOUNTANT — age 26, married, would like job in college town. Experience in all phases of utility accounting and office management. Write Box No. 3971, c/o TELEPHONY.

PLANT ACCOUNTANT OR ASSISTANT—aggressive young man with 10 years experience in payroll-engineering in regards to New Subscriber and Connecting Company representative and Plant Unitization. Write Box No. 3970, c/o TELEPHONY.

TELEPHONE ENGINEER—supervisor. Twenty years experience telephone repair, maintenance, station installation, supervision, planning, engineering and construction of outside telephone plant. Write Box No. 3969, c/o TELEPHONY.

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TELEPHONES—all types—any condition; candlesticks, wall sets, etc. Write advising quantities available. Our truck will pick up. Reply to Box No. 3952, c/o TELEPHONY.

Private party will pay cash for all or part stock interest in telephone operating property 5,000 to 30,000 stations. Cash also available for conversions. Write Box No. 3953, c/o TELEPHONY.

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TYPE No. 40 MONOPHONES

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One 50-LINE KELLOGG C. B. PBX —$1,300.00. Write Lincoln Telephone Co., Wentzville, Mo.

JEEP-A-TRENCHER — like new. For information write or contact H. Gemar, Rt. 4, Box 398, Lodi, Calif.

WESTERN ELECTRIC NO. 392 LOUD BELLS. Refinished and tested, with condenser—$6.00 each. Telephone Equipment, Inc., Montrose, Mich. Telephone 2211.

ARMY CONSTRUCTION TRUCK, 1947 model, with derrick, winch, 2-speed axle, 4-wheel drive. Good condition. $650.00 FOB Charlottesville, Va. Contact Pankey Supply Co., Box 1070, Charlottesville, Va. Tel. 3-2115.

ESTATE SALE. Fully automatic unattended Kellogg relaymatic dial system. Entire plant new 1951. Seventy subscribers. Modern gas heat residence adjoining plant available. Located heart of duck, goose, quail hunting country. Indian Grove Telephone Co., Indian Grove, Mo.

PENTA TREATED outdoor wood telephone booths, painted red, complete with Glo-Dome, glass side panels and folding door. Crated. $150.00 each FOB Harrisonburg, Va. Contact Pankey Supply Co., Box 1070, Charlottesville, Va. Tel. 3-2115.

AUTOMATIC ELECTRIC 150 Station Dial PAX, 58 Hand Combination Desk Sets, 66 Wall Combination Sets, 29 Upright Sets. System is 25 years old and in good condition. Many of the instruments recently installed. Available June 1st. The Toledo Hospital, N. Cove Blvd., Toledo 6, Ohio. Attn: Mr. Showalter.

DIAL BOARD for immediate service. North CX100 equipped 100 lines, 8 links, 4 CX trunks in 2 groups, code ringing, Cook 100 Wall M.D.F., batteries (3 years old), and charger. Housed in a 10' x 14' insulated wood frame building with asbestos shingle siding. Complete unit can be easily moved (on low-bed trailer) and by connecting AC power and distributing cables is ready for service. Priced at $5,500 F.O.B. Warren, Minnesota—Marshall County Telephone Co., 530 Syndicate Building, Minneapolis 2, Minn.

STROMBERG-CARLSON SEVEN POSITION MAGNETO MULTIPLE SWITCHBOARD—536 line drops and jacks with multiple; 40 2-way magneto-dial trunk circuits which operate on reversal of current—line and supervisory signals are lamps. Three positions with 352B combined keys and drops (rewired for divided ringing) and 184 or more 17A drops and jacks with multiple are equal to new. WECo wall type MF, old but good. Other miscellaneous equipment. Will sell all or any part. Circuit diagrams or other information furnished on request.

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RECONDITIONED SETS

Leich No. 601—Common Battery, St. Line @ $13.00 With A. E. Dial @ $16.00

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Independent Telephone Repair Co.
2137 West 21st St., Chicago 8, Ill.

2—	#11 J Pay Stations with Transmitter ..... ea.	$11.00
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1—	Model H Telering Subcycle 7½ Watt	15.00
4—	Model S Lorain (20 cycle) Subcycles ..... ea.	40.00
1—	Telering 7½ Watt 24 VDC to 90 Volts, 20 cycle.....	15.00
1—	Kellogg 10A Interrupter....	65.00
10—	WE Co. 77A Repeat Coils for Phantom Termination...ea.	15.00
1—	Kellogg Test Board (Common Battery)	35.00

Above equipment less than three years old.

1—#11 WE Machine Ringing Keyless listening Common Battery Switchboard. Three positions, 580 Line and CO Relays, 20 Combination Rural and Toll Trunks. Lamps, Jacks and Power Board has been disposed of; however, Lamp and Jack Strips can be purchased easily. This equipment used six years. Make an offer.

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ONE POSITION AUTOMATIC ELECTRIC LOCAL TOLL and DSA SWITCHBOARD equipped with:

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- 9 Jack Strips of 10 Jacks each
- 1 Alarm Indicator group 10 Indicators

Plus Attendant Automatic Electric Equipment:

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All equipment mounted on racks and cabled in. Write Box No. 3968, c/o TELEPHONY.

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NORTH ELECTRIC desk. Similar to W.E. 302, with W.E. F-1 transmitter, HA-1 receiver, 101A induct. coil 3000 ohm SL or low impedance ringers most frequencies. A.E. Metropolitan dial $12.50
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A.E. type 40 desk. SL and most frequencies with A.E. Metropolitan dial $12.50

A.E. type 87 desk. High impedance, ringer in most frequencies, like new. Metropolitan dial.. $20.00

Metal Wall Phones, W.E., A.E., for hotel or pay stations, modern transmitter—long rec. SL and other frequencies.
Blanked for dial ..... $ 7.50
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